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THE BOOK OF THE TIGER

SPORT AND WILD LIFE IN THE DECCAN

A BOOK OF MAN-EATERS

THE HISTORY OF THE HYDERABAD CONTINGENT

NAPOLEON'S CAMPAIGNS IN ITALY

FROM BOULOGNE TO AUSTERLITZ

NAPOLEON'S INVASION OF RUSSIA

Etc.



Photo: Lafayette, Bond Street

THE AUTHOR

THE BOOK OF THE TIGER

WITH A CHAPTER ON
THE LION IN INDIA

by
BRIGADIER-GENERAL R. G. BURTON

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1933

PREFACE

MY object in writing this book is to present between the covers of one volume a comprehensive view of an animal about which so much has been written that it may at first sight be regarded as an exhausted subject. But most books relating to the Tiger are concerned mainly with the experiences of their authors in encompassing its destruction, although many of them contain valuable information as to its character and habits. Such information is, however, scattered and incomplete, while there is still much to be learned about the life-history of this and other animals. It has often been said that "one Tiger dies for all," as though the episodes attending their demise were always alike. In fact, the incidents of hunting are of infinite variety, while there are poignant human tragedies as well as instances of remarkable heroism connected with savage beasts and the jungle villages of India. This volume is concerned more with natural history than with sport; the few chapters devoted to the chase are intended to describe and illustrate various methods of hunting rather than to give lengthy descriptions of bags and blood.

The last word has not yet been said about the character, habits, and attributes generally of a beast so unjustly stigmatised as cruel and bloodthirsty merely because it pursues its natural instincts in sustaining life. The size, or rather the length to which the Tiger

attains has been for more than a hundred years the subject of perennial or periodical controversy ; it is dealt with exhaustively in the third chapter in the hope of enabling my readers to arrive at definite conclusions on this controversial point. The question of the existence of local races, based by some on coloration and the arrangement of the striped and looped markings of an animal whose habitat extends across Asia from the foot of the Caucasus eastwards to the Malay Archipelago and northwards to the confines of the Arctic Circle, still remains to be elucidated.

There are other controversial questions. Does the Tiger hunt mainly by scent or sight, with the aid of particularly acute hearing ? Or is it rather by the exercise of all senses in due proportion, whether one or the other predominates, that the great beast seeks its prey and eludes its enemies ? I raised this question in *The Times* of 22nd June, 1928, in a letter which led to an interesting correspondence. Are wild beasts afraid of light and of the camp-fire, and will such camp-fires alone, as is commonly supposed, and as Humboldt believed and W. H. Hudson stated, " make it safe for the traveller to lie down and sleep in the light," where predatory beasts, as is rarely the case, are bent on his destruction ? From what causes does man-eating arise, often appearing to be perpetuated in particular localities ? These and other matters are dealt with at length and in detail, illustrated by examples, or touched upon in the following pages. It is hoped that some light has been cast upon obscure places, if only by the fitful gleam of the camp-fire and the camp-lantern in jungles where I have passed so many happy days and nights.

There is to-day an increasing tendency to institute measures for the protection of the fauna of the Empire,

including the establishment of an influential Society for the purpose ; this is timely and should have the support of every sportsman, for the deadly efficiency and widespread use of modern arms, and in a high degree the extension and acceleration of means of communication, are leading to the undue diminution or extermination of many species. An eminent Indian, the late Mr. Ameer Ali, shortly before his death, drew attention in a letter to *The Times* to the danger threatening wild life in India owing to modifications of the Arms Act which, he wrote, "have vastly increased the rate of slaughter either by arms-holders themselves or by employees for their profit. . . . this destruction is now being widely carried into Government Reserved Forests, the last refuge of the game of British India." He favoured the creation of a Department for Game Preservation as I had already done in the Press in India more than thirty years ago.

It may be thought that one who was for a number of years a hunter of big game can have little sympathy with the point of view of those who condemn "blood sports." But hunters are often the most humane of human beings, although they may not favour extreme sentimentalism, which is apt to be irrational. Legitimate hunting did comparatively little harm in India until the introduction of modern weapons and the extension of roads and railways. The sportsman respects close seasons and spares the females and young of most wild beasts. The time has come when he should curb still further the instinct for destruction. The Tiger receives short shrift, but while some Tigers take toll of human life and most destroy large numbers of domesticated cattle, it must be borne in mind that even the great carnivora have their uses and their place

in the economy of Nature, as explained in this volume "Man marks the earth with ruin," and it would be pity if so splendid a beast as the Tiger were to be exterminated.

But the annual loss of some 2500 human lives and of vast numbers of domesticated animals from the attacks of wild beasts necessitates keeping such animals within bounds. Even those who condemn big game hunters for what are sometimes termed their "horri-fying exploits" must see that there is something far more horrifying in the human tragedies related in this volume and in my *Book of Man-eaters*. Without the big-game hunter such tragedies would be more numerous and more widespread.

I have purposely refrained from specifying particular hunting grounds ; conditions are constantly and rapidly changing, and any information regarding such localities may be obsolete, at any rate in a few years. I have myself seen the face of a fine jungle completely changed by the clearing of forest in the course of two or three years ; and only a few weeks ago a valued Indian correspondent, who has recently traversed much of the country I knew so well in years gone by, wrote to me that "with the rapid progress of railways and motor traffic there is a corresponding diminution of game." No doubt the Government Reserved Forests and the jungles in those Indian States whose Ruling Princes have both the power and the will to protect wild animals will long continue to hold Tigers.

In this volume my own experiences of wild life and the conclusions gathered from them are supplemented by those of many others, the accumulated results of whose observations are of the greatest value. I must acknowledge my deep obligation to the Bombay

Natural History Society, whose Journal furnishes most valuable information collected by observant sportsmen and naturalists regarding the fauna of India, and from which, by the courtesy of Sir Reginald Spence, the Honorary Secretary of the Society, some of the illustrations are reproduced. A bibliography of works relating to the Tiger is given at the end of Chapter XV ; to some of these books and articles in Magazines, many of the authors of which have long gone to the Happy Hunting Grounds where Frank Buckland said he hoped to meet with many interesting animals, I am greatly indebted. The chapter on *The Lion in India* at the end of the volume is reproduced by kind permission of Messrs. Chambers from an article contributed to their Journal for February, 1933.

R. G. BURTON.

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THE BOOK OF THE TIGER

CHAPTER I

PREHISTORIC TIGERS

LONG ago there were creatures that lived in caves where to-day we find their bones ; or perhaps they only went into caves to die. If the lion did not lie down with the lamb, the cave Tiger's bones repose with those of many vanished species, such as the mammoth, the woolly rhinoceros, the bison, and the reindeer. There are to be found "sealed within the iron hills" in cave deposits of all continents the remains of cave lions or Tigers, the prehistoric sabre-toothed animal of European debris. It is a question whether these great prehistoric carnivora bore more resemblance to the lion or the Tiger, the two species being so much alike as to be in many respects structurally identical. It must be borne in mind that coloration, tigrine or otherwise, is of slight importance compared with skeletal structure so far as it can be deduced from the ossuaries in which the remains are found. Perhaps these animals were spotted like the pard, a very probable conjecture in view of the young lion and the lynx being spotted, while the Tiger often has many spots, and some of his stripes appear to be no other than elongated rosettes.

A skull of the cave Tiger from the grotto of Herm in Arriège, France, has the great canine teeth $2\frac{1}{2}$ inches

in length outside the jaw. The exposed and enamelled portion of the same teeth in the Tiger and lion of to-day is generally under two inches long in large male specimens, and the whole tooth is about $4\frac{1}{2}$ inches in total length when extracted. The canine teeth of the fossil species appear to be longer in proportion to the size of the animal, for the skull was no larger than that of a lion.

There are in numerous caves in France and elsewhere in Europe many drawings made on the rock surface by prehistoric man. But these in general depict beneficent or graminivorous animals, hunted for food, such as the mammoth, deer, rhinoceros, bison and other oxen, horses, and goats. The great carnivora are usually absent from these picture galleries ; they were probably feared and avoided by man with his primitive weapons, such as clubs, spears, and arrows reinforced by flint. However, some incised representations of cave bears have been found, and a lion or Tiger is figured on a rock surface at Cambareilles in France. The drawing shows no mane, nor any indication whether this animal more nearly resembled the lion or the Tiger, unless lines incised on the neck are intended to represent either mane or tigrine stripes. Among animals figured in prehistoric paintings recently discovered in the grotto of Bastide in the Pyrenees is the head of a lion roaring and showing his teeth.

Possibly prehistoric man, even if he did not venture to attack the great carnivora with his primitive weapons, may have set traps to destroy them ; he may have used heavy rocks for the purpose. I recollect the inhabitants of a village on the bank of the Pein Gunga showing me the skin of a decrepit leopard they had stoned to death ; and in the Satpura hills an old woman saw a bear asleep

at the bottom of a cliff; she rolled a great boulder on to it and crushed the life out of it.

It is interesting to conjecture what was the coloration of the ancestral type of the great cats. On first thoughts it might be supposed that wild beasts living in caves would probably be unicoloured like the lion, or even black in conformity with their sombre surroundings. But although the remains are more generally found in caves, it does not follow that they were cave-dwellers like the sloth-bear of the Indian plains and lower hills, an animal found also in open forest among bush and boulders. They may have been nocturnal, retiring to caves by day, or they may have retreated to such places on the approach of dissolution, while in such localities bones would be more easily preserved than in the open exposed to the weather. Tigers and leopards often have their lairs in caves.

But it would be a mistake to suppose that the coloration of the Tiger and the leopard is conspicuous either in its natural surroundings or in gloom or dusk. These animals appear of a grey and indeterminate colour in the gloom of night, and even in moonlight. They have been likened to a puff of smoke or the shadow of a cloud passing across the face of the moon. Stripes and spots lend to animals a marked protective coloration, both by day amid bush or grass jungle and in the light and shade of sunlight and shadow, as by night in the open. As nature abhors a vacuum, so also she in general rejects a uniform coloration except perhaps in the case of the desert-born, which take on the dusty colour of their environment. But even these creatures are lighter below than above.

Amid most natural surroundings the breaking up of uniform coloration renders an object inconspicuous, a

fact which has been effectively applied in the painting of guns and battleships for purposes of camouflage in war. It seems likely, therefore, that the ancestral type of the great cats may have been striped or spotted, which is the coloration not only of all except the lion and puma, but of most of the small cats and many viverridæ. Moreover the young of the lion, the puma, and the lynx are spotted, as well as many of the adult animals in some degree. There is in this an indication that these animals come from a spotted ancestor, for young animals in general exhibit the characters of the ancestral type. It may be objected that the young of the cheetah or hunting leopard, on the contrary, are of a uniform greyish colour, but their spots can be discerned in the under-fur.

The cave animal may very probably have been spotted rather than striped, especially as there is considerable similarity between the stripes of the Tiger and the spots of the leopard. Many of the Tiger's markings are like elongated rosettes, and both lions and Tigers frequently exhibit spots. Evidence is also to be found in hybrids between the lion and the spotted cats, for the lion has been crossed with both the leopard and the jaguar; in these cases the leonine characters appear to be dominated by those of the spotted animal. The male lion-Tiger hybrid known as the "Tigon," named Ranji after Ranjitsinhji, the Jam of Nawanagar in whose State it was bred, which lived in the Regent's Park Zoological Gardens for eight years, looked more tigrine than leonine, while, although of the tawny colour of the lion, it had faint stripes. A hybrid between a Tiger and a lioness, bred in Edinburgh and preserved in the Natural History Museum in South Kensington, also appears more tigrine. Other such hybrids have



TIGER

Basal length 14.5 in. Zygomatic breadth 10 in.



INDIAN LION

Length 14.4 in. Breadth 9.9 in.



PANTHER

Length 8.3 in. Breadth 5.9 in.



TIGRESS

Length 11.3 in. Breadth 7.9 in.

Photos: The Bombay Natural History Society

FELINE SKULLS

been bred in menageries. In hybrids the more primitive type is biologically predominant, and the conclusion is that the spotted and striped animals are of the older type, and that the lion, whose coloration is specially adapted to its natural environment, is the most recent.

There has been no authenticated instance of a Tiger-leopard hybrid. But in *The Field* of 18th January, 1908, the skin of an abnormally-marked leopard from the Deccan, which may have been such a hybrid, is described. "Although the markings present some approximation in pattern and mode of arrangement to the jaguar type, the head and back are ornamented by an altogether peculiar kind of meshed network of broad buff lines, the first mesh which occupies the head being much larger than all the others." The markings are stated to bear no approximation to the Tiger type, and it is remarked that Tigers are seldom found in the district. But from the description it appears that the markings are just what would be expected in such a hybrid. The Tiger has meshed network markings on the head, and for reasons already given, a Tiger-leopard hybrid would approximate more to the latter animal. The fact that Tigers are seldom found in the district favours the hybrid theory, for the two species would be more likely to mate where one is scarce, and where it would be unable to find a mate of its own species. I have shot a score or more leopards in one district of the Deccan, among them at least one approximating to the jaguar type in having a central spot in many of the rosettes. In that district I met with only one Tiger, which entered the cantonment of Jalna, and must have wandered far from its usual haunts. It was a solitary male in country infested by leopards where it certainly could not have found a mate of its species.

Other forms of coloration, the clouded leopard of Burma and Malaya and the ocelot of South America, appear to present a transition stage between the stripes of the Tiger and the rosettes of the panther and jaguar. It is a question whether any analogy as to the coloration of primeval species might be drawn from the hyenas, the typical examples of which are the striped hyena found in Asia and Africa, and the spotted hyena confined to Africa. The remains of prehistoric hyenas have been found in cave debris in Europe ; these indicate that the spotted hyena was the commoner of the two, although, as there is no record of hybrids, evidence is wanting as to which is the more primitive. But the spotted hyena is nearer the civets, an indication of an earlier type.

Spots are, in fact, a commoner form of coloration than stripes. Most of the deer tribe, although now of a uniform colour in general, present this character. Among the spotted species are the fallow deer, the Indian spotted deer, and the little meminna or chevrotain. Other species have spotted young, and some have seasonal spots. The young of the red deer, the swamp deer, the hog deer, the roe deer, the Chinese water deer, and the Virginian deer are spotted ; so that the arguments which apply to the probability of a spotted ancestor in the case of the great cats are applicable also to the deer. Other animals of which the young are spotted are the Malayan tapir and some of the seals ; and of these the leopard seal and the common seal as well as several other species have spots in adult life. The antelopes are in general dwellers of the plains, and in their case coloration would not be adapted to give concealment in cover. But a few, such as the kudu and the harnessed antelope, display some arrangement of

spots or stripes. The blotched coat of giraffes affords them concealment among the mimosas on which they feed. Horses may have been originally striped like zebras. In hybrids the offspring resembles the wild species, and in horses, wild and domesticated, there is a tendency to stripes on the legs and the dorsal line.

The great cats of one group at any rate bear a very close generic resemblance to one another. There is little intrinsic difference between the lion and the Tiger, which differ mainly in superficial and comparatively unimportant characters relating to coloration and the growth of mane. Indeed these differences between the great cats are so slight that Mr. R. I. Pocock has classified both these animals, and the panther or leopard, the snow-leopard, and the jaguar, under one heading to which he allots the generic term *panthera*. In this nomenclature there appears to be much reason. This group of cats, while bearing a generic resemblance to one another, differ from the other felidæ in the hyoid bone, as pointed out by Professor Richard Owen in 1834. This bone supports the larynx or voice organ, which in the typical cats is connected with the skull by a series of short pointed bones; but in the group termed *panthera* by Mr. Pocock this hyoid structure is a ligament furnishing the larynx with more motive power and thus affecting the voice. In effect, only the genus thus termed *panthera* is able to emit roaring calls, while the other cats make lesser sounds such as mews and purrings.

As regards the general structure of the skull, the lion and the Tiger are alike in size, both being much longer in this respect than are other species of the group. The Tiger's skull, viewed in profile, is more arched above the orbits than that of the lion, which is comparatively

flat. There is, therefore, little difficulty in distinguishing the skulls of the two animals when examined together ; but even in this respect the skulls of some Tigers are as flattened at the top as those of some lions. There are also, Mr. Pocock says, some general differences between the nasal bones of the two animals ; but here again in particular specimens these bones in one species approximate in general character to those of the other. Taking all these matters into consideration, Mr. Pocock well sums up the question when he writes : “ all that can be said with regard to the cranial differences between the two species is that Tigers on the average have more vaulted skulls, with longer, narrower nasal bases, narrower anterior nares, the facial part shorter as compared with the cranial part, and the lower edge of the mandible straighter than in lions.”¹ It is an interesting conjecture whether the nasal differences specified may not in some measure account for the lion apparently having keener powers of scent than the Tiger.

Apart from coloration, the great cats are all alike in general outward physical characteristics. All present the embodiment of power, symmetry, and grace, possessing powerful jaws furnished with great canine teeth, adapted not only to seizure of the prey, but to hold and kill it. Their middle teeth or incisors are furnished with sharp cutting edges for tearing flesh from the body, while the double teeth or molars at the sides are suited for the mastication of their food. The tongue has on its surface prominent papillæ, making that organ rough and rasping, and enabling the animal to lick up blood and remove surface flesh from the bones, and to keep itself clean. Cleanliness is a necessity, not only for reasons of health, but so that the

¹ Journal of the Bombay Natural History Society—Vol. XXXIII.

prospective prey may not more easily detect by scent the presence of the great cat.

The long lithe body, furnished with muscles of immense strength, is made to facilitate swift and active movement, sinuous through dense cover, or crouching when approaching the prey. The limbs are strong and sinewy, the paws supplied with cushioned toes and central pads to favour silent movement and swift progress over the ground. The claws are of great size, connected with the leg by tendons, and retractile in their fleshy sheaths within the toes ; the claws can thus be extended to seize and hold prey, and to climb trees in the case of species with arboreal habits, while retraction shields them from injury and keeps them sharp. They scale and clean their claws on trees by scratching the bark, just as the domestic cat can be seen performing the same operation in the garden.

The senses of the cats are perhaps subject to variation in different species, some possibly possessing more highly developed olfactory nerves than others. The form of the external ear favours hearing from both front and sides. The structure of the visual organs is adjusted for hunting by day and by night. The retina, or expansion of the optic nerve, is most sensitive to the stimulus of light ; hence a well-marked ciliary muscle contracts the pupil to a mere vertical fissure during the day, while in the dark the pupil dilates enormously and lets in as much light as possible. It is furnished with a bright lustrous membrane, which lines part of the hollow globe of the eye, and sheds considerable light on the image of an object thrown on the retina. It must be borne in mind that the eyes of Tigers and other animals do not shine in darkness with their own luminosity, but gather reflected light.

CHAPTER II

PROTECTIVE COLORATION

THE theory of selective, protective, and obliterative coloration has been much misunderstood, as well as its consequences in evolution by natural selection and the survival of the fittest. But those who have hunted and observed wild animals, and remarked extraordinary insects resembling sticks, leaves, and other objects, and species "mimicking" one another, cannot fail to see that colours and their arrangement play a large part in the evolution and economy of nature. A. R. Wallace ascribed to protective coloration the purpose of "concealing herbivorous species from their enemies and enabling carnivorous animals to approach their prey unobserved." This is intelligible, although coloration to be of immediate service necessitates absence of movement. It may be thought that animals hunting by scent will find their prey whatever its coloration, but even such animals have to carry out the last phase of the pursuit with the quarry in view. Similarly absence of movement on the part of the beast of prey is essential to concealment from view; but an animal stalking its victim may stalk or creep from cover to cover, as from one bush to another, and stop if its quarry is alert and watching, when coloration will lend concealment. Darwin was of opinion that the coloration of the Tiger is to be referred to sexual selection.

There can, however, be no doubt as to the value of protective coloration as seen, for example, in the concealment it affords to the nightjar when squatting on the ground or on the withered branch of a tree, and to its eggs where they are laid upon the ground. But to instance the picture of a blue jay, as one enthusiast has done, assimilated with snow and blue shadow is absurd, for blue jays do not normally pass their lives amid such surroundings. There is, however, sense in instancing the adaptation of the desert-born to the sand of the desert, and the albinism donned in winter by stoats or ermines and other forms of life inhabiting northern latitudes. In Baluchistan the markhor or wild goat, and the wild sheep, amid their rocky wilderness, the gazelle and various species of partridge, the jerboa rat and the bustard, are practically invisible when at rest. A flock of sandgrouse, conspicuous to sight and by their cry when flying, suddenly disappear in silence when they alight on the desert's dusty face. In England the sudden obliteration of the lark descending from the heaven where it sings, may be noticed when it settles voiceless on ploughland or stubble.

Sir Samuel Baker wrote of the giraffe in Africa : " It is exceedingly deceptive in appearance when found in its native forests. The red-barked mimosa, which is its favourite food, seldom grows higher than fourteen or fifteen feet. Many woods are almost entirely composed of these trees, upon the flat heads of which the giraffe can feed when looking downwards. I have frequently been mistaken when remarking some particular dead tree-stem at a distance that appeared like a decayed relic of the forest, until upon nearer approach I have been struck by the peculiar inclination of the trunk ; suddenly it has started into movement and

disappeared." This is an example of protection afforded not only by coloration but by form. A photograph taken by Lord Delamere shows to perfection this obliterative coloration of the giraffe; the animal, invisible for a time, and then revealing itself by movement and as suddenly disappearing.

I have been on the point of firing at a patch of sunlight and shadow chequered through a bush, and mistaken for a leopard known to be lurking in the cover, from which it was quite indistinguishable. And more than once a dead Tiger has been quite obliterated amid its surroundings of dry grass, burnt sticks, and other jungle debris. But the animal does not always live in such cover, although it is not often conspicuous; the relation of its coloration to the environment may be compared with that of the lion. Animals of almost any coloration are difficult to see when motionless in the forest. A black or chestnut-brown gaur or bison with white "stockings" may be betrayed to view only by the movement of its ears twitching to and fro to keep off the flies. But to suppose that black leopards are more common in Java to enable them to hunt more easily the black gibbons on which they sometimes prey is absurd.

The Tiger, like the lion, may be conspicuous in movement by day, but it usually hunts by night when coloration is less important; still the pattern of stripes assists in making it appear like a grey shadow, although the poet, with pardonable licence, wrote of it "burning bright in the forests of the night." But if it is an immigrant into sub-tropical regions from the supposed cradle of the race in Northern Asia, it may have lived amid the tundras and reed-beds where its coloration rendered it inconspicuous and where the climate

favoured hunting by day as well as by night. But if this is the case why should it, like other cats, have developed the power of seeing in the dark better than other animals? Probably it hunts in the dark more for purposes of concealment than for climatic reasons.

Generally speaking, however, a uniform coloration is uncommon in animals; the breaking up of uniform colour by spots, patches, and stripes, which lessons of nature have taught us to adopt in war, helps to conceal. Even so conspicuous a hue as black, which is comparatively rare in animals, sometimes affords concealment. The Indian sloth bear, black except for its muzzle and the "horse-shoe" on its chest, often inhabits not only caves, but ground amid masses of black rocks and boulders, shaped not unlike a bear. An apparent boulder may be revealed as a bear only by the breeze stirring the long black hair between the shoulders.

The coloration of the Tiger, consisting of both pattern and colour, is so well known as to require little description. The ground colour varies from a bright sienna to a rufous tint, tending to be of a deeper hue in young mature animals and perhaps darker in those inhabiting dense and dank forests, to a paler yellow in old age. But while the supposition that animals such as Tigers and leopards are darker in dense forest than in open jungle may possibly be generally correct, it is by no means an invariable rule. Both dark and light-coloured Tigers may be found in jungle of every description. The black stripes in general take off from the vertebral column, some extending across the back and down the flanks, some only on one side or the other, and some connected by dorsal lines, including small black triangles either isolated or connected with the stripes. On each flank are subsidiary stripes "floating"

independently on the ground colour ; but all stripes, whether of irregular form or arranged in loops or in black bands, generally assume a roughly parallel formation. The belly stripes on their white ground are often in the form of broad black bands, although here also there are loops. Often a number of spots are interspersed with the stripes. In some Tigers stripes are far more broken up than in others, and they vary much in pattern, even in individuals belonging to one locality or one family. The stripes or markings are quite irregular, those on one side of an animal not corresponding with those on the other side.

In old age both stripes and ground colour tend to be fainter in hue, the stripes more perhaps from an admixture of lighter hairs than from actual fading. In many individuals the stripes are scantier about the shoulders and fore part of the body, and in some instances they are absent from a considerable area. The cheeks and throat are white, with black markings that here and on the head sometimes assume an almost reticulated form ; there are white patches known as sun-spots above the eyes ; the ears are black with a central white spot.

The mature or older males are often provided with a pronounced mane on the back of the neck, and extending round the cheeks and neck below the ears. The labial bristles are like those of the domestic cat, but very thick, stiff, long, and mobile ; where absent in specimens they have sometimes been replaced by stripped birds' feathers. They may in life be observed to move rapidly back and forward as though sensing the surroundings. The eyes have round black pupils ; the iris of a greenish yellow.

The hair of the Tiger is longer and thicker during

the cold season, the coat becoming smoother and at times seeming almost hairless during the hot weather owing to the shedding of the winter hair at the onset of summer. The coat is naturally accentuated in thickness and supplemented by under-fur in northern climates, the Manchurian Tiger having a well-covered body like the snow-leopard. The young are of a paler colour than the mature animal, at any rate in the cub stage when strength no doubt goes to bodily growth rather than pigmentation, and when the fur is rough and soft.

The division of the Tiger into local races appears to be a very difficult matter. There is in coloration and in the pattern of stripes so much variation that it is difficult to establish local races on this basis. The animals even of one forest or area present a complete lack of uniformity in these respects, and while an examination of many skins shows that there are some aberrations, such as a paucity of stripes on some parts of the body, it is doubtful whether a regional classification can be based upon any constant or dominant characters of pattern in particular localities. However, the Elburz specimen figured by Mr. R. I. Pocock in his monograph on the species in the Journal of the Bombay Natural History Society may represent a local race, if it is not a rufous aberration rather than a typical example from that region. The stripes are a reddish brown, slightly darker than the ground colour.¹

A writer in the *Oriental Sporting Magazine* for 1833

¹ Since this was written, a letter from Mr. H. Sody in Vol. XXXVI of the Journal supports the regional classification of the Tigers of Java, Sumatra, and Bali, based on size, ground colour, and cranial characters.

states that there is certainly a white and he believes a black variety of the Tiger. In recent years white Tigers have been found in increasing numbers in one locality, whether they are true albinos or merely deficient in pigmentation. It would be interesting if a local race of this type were established. There have, however, been white Tigers from other districts. Buchanan Hamilton refers to one shot at Dinajpur ; the skin was sent by the Marquess Wellesley to Sir Joseph Banks. Another albino, figured in Cuvier's *Animal Kingdom*, was pure white with stripes more opaque and visible only at certain angles of reflection. It lived some years in Exeter Exchange.

A note by the Editors of the Bombay Natural History Society's Journal points to the remarkable fact that seventeen white Tigers have been shot within the last twenty years, and pertinently asks whether variations are tending to a new race, and whether they breed white, for the white Tigers of Rewa State at the head waters of the Narbada river appear to have bred white for several generations, as the black panthers in Kolhapur Zoological Gardens have bred black for several generations.

Mr. Lydekker wrote in his *Game Animals of India* that a white Tiger was exhibited at Exeter Exchange about 1820, but its origin is not stated. One was shot in Upper Assam, and the Maharaja of Cooch Behar had two skins. A skin in the possession of a Mr. Considine was described as being of the colour of a polar bear with the faintest lines to indicate stripes, the ground colour being a bright creamy white. This corresponds with the specimen figured by Lydekker and Cuvier. *The Indian Forester* for May 1909 has a description of a Tigress killed in Orissa, the ground colour pure

white and the stripes a deep reddish black. It was in good condition and showed no signs of disease.

Colonel F. T. Pollok, in his book *Wild Sports of Burma and Assam*, wrote that he saw a magnificent skin of a white Tiger at Edwin Ward's in Wimpole Street, and Mr. Shadwell, Assistant Commissioner in the Cossyah and Jyntiah Hills, also had two skins quite white. The Natural History Museum, South Kensington, possesses a white skin with tan stripes, and a mounted one from Rewa, with deep chocolate stripes, deposited by His Majesty the King. A small cream-coloured skin, with chocolate brown stripes, fur rather long and soft in texture, is described in the Journal of the Bombay Natural History Society (Vol. XXIV) as having been shot in the Bilaspur District. The whiskers were dark brown and white. In the same Journal (Vol. XXXII), Mr. F. B. Robinson describes and illustrates with a photograph, the shooting of a white Tigress in the district of Bhagalpur. He shot one on the 26th December, 1926, pure white with black stripes on her body and russet brown stripes on the tail. Two others were received by the taxidermist in 1926, both cream-coloured, not albinos, for they had not pink eyes.

But the most interesting record is that of a captive described and figured in the Journal (Vol. XXVII), caught in the jungles of Rewa near Sohagpur in December 1915, when about two years old. Mr. Janki Persad, Home Member of the State Regency Council, said that there were at the time two more white Tigers in Southern Rewa related to this one, but it was believed that the mother of the animal was not white. Others had been seen or shot in the Maikal range of mountains.

The captive Tiger, examined by Mr. A. E. Scott of the Indian Police on the 3rd December, 1920, was described as pure white, with indistinct or light black stripes, the markings on the face black, but the majority of the stripes ash-coloured owing to the admixture of white hairs. In the hot weather the hair becomes lighter and the stripes take on a brownish tinge. The nose was mottled grey pink, instead of the normal pink. The lips grey-black on the hair line, instead of the normal black, and quickly instead of gradually merging into the pink of the interior mouth. The colouring of the eyes very indistinct; there was no well-defined division between the yellow of the comex and the blue of the iris. The eyes in some lights practically colourless, merely showing the black pupil on a light yellow background; the eyelids pinkish-black; ears normal in colour and markings, but the ground black slightly ashy.

This Tiger was under-developed owing to years of captivity, but in height slightly above the normal, and in a wild state would undoubtedly have been an exceptionally large animal. White Tigers have been known for years in the jungles where the Bilaspur and Mandla districts of the Central Provinces join with Rewa State. They seem to run large, which suggests a theory that they are not albinos, but a distinct race. It is suggested that the constant association with one another of two full-grown ones tempts one to believe that they do not interbreed with the ordinary animal; but the two may be born of the same mother.

If these white Tigers cannot be classed as pure albinos, the latter are very seldom met with, but two were recorded in a letter by Mr. Victor Narayan in the Bombay Natural History Society's Journal in 1922.

A family of man-eaters had for some time been causing damage eighteen miles from Cooch Behar. They were beaten out and shot, and found to consist of a fine Tigress in the prime of life and condition and four cubs, the cubs being killed one day and the old one two days later. A big male panther was shot in the same beat as the cubs, having climbed a tree "evidently in fear of the Tigers." Two cubs, male and female, were of the normal type in size, colour, and marking, measuring about 6 feet 6 inches in length. Two, also male and female, were albinos 6 feet long and in very bad condition; they had long necks and pink eyes, and "trotted along like dogs, while the other two galloped hard."

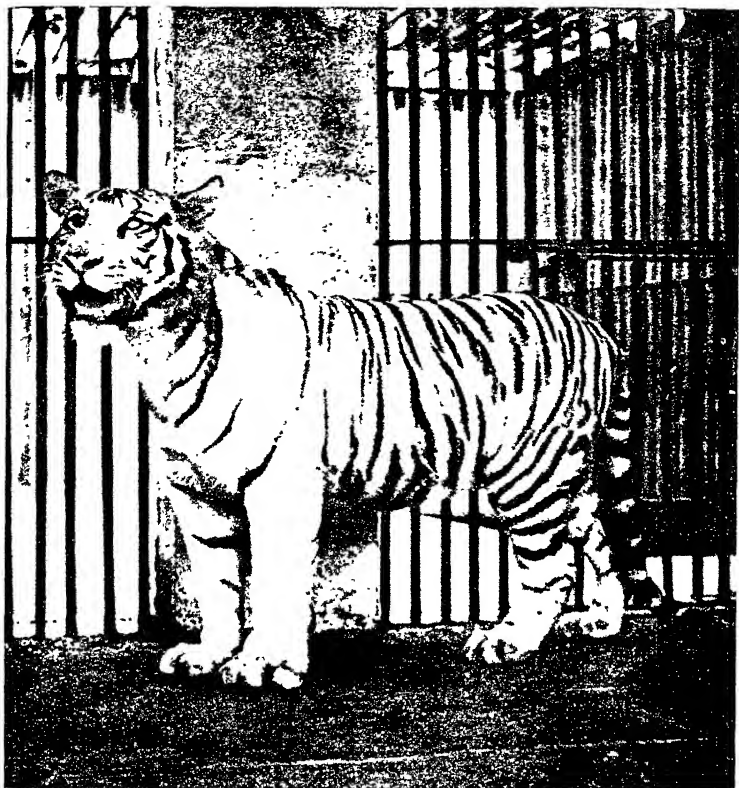
While it has been shown that white Tigers are not uncommon, it is somewhat curious that black ones are so rare that their existence has generally been denied. This is especially remarkable in view of the fact that melanism is comparatively common in the panther or leopard and the jaguar; while the lion, if never found quite black, sometimes occurs in melanistic mutant form, like one described by Sir Henry Layard in Persia, killed by Bakhtiaris in the plains of Ram Hormuz.

Colonel Welsh wrote in his *Military Reminiscences* in the early part of the last century that in the forests of Travancore "there are two distinct species of black Tigers, one kind with streaks like a royal monster, the other with spots like a panther, though these distinctions can only be observed in a strong light, so jetty black is the skin. They are diminutive but excessively fierce and strong, not hesitating to attack anything they meet." This statement is probably founded on native report, and must be rejected, for there has been no confirmation of the presence of black

Tigers in the south of India. At the same time it is interesting to observe that in 1905 Captain Capper, Central India Horse, saw what he thought was a black Tiger basking on a rock in Travancore, observing it through his telescope. But size is very deceptive, and shadow often lends a black appearance to objects that are not black. Nor is it merely a question of shade or shadow. Stripes cease to be visible to the naked eye at a comparatively short distance. In sunlight animals of any colour may appear very dark, or even black. So there can be no certainty about this animal, which may have been either an ordinary Tiger or a black panther.

It is recorded in the *Observer* of 27th January, 1811, that "a large black Tiger, intended as a present from the King of Java to Bonaparte, taken in the *Gude Vrow* on the passage to France, is now to be seen in Kendrick's collection of rare foreign beasts and birds, at Number 40, opposite St. James's Church, Piccadilly." This was probably a black panther, the word Tiger being often used indiscriminately for both animals even in India, and for the panther in South Africa and the jaguar in Brazil. Black panthers are not uncommon in Java.

In the Bombay Natural History Society's Journal there is printed a letter from Mr. Hauxwell dated October 1913, from Burma, as follows: "Have you ever heard of such a thing as a black Tiger, not leopard? While up at Kaukkwe in the Bhamo district, I went to the Lwins (open grassy spaces in the forest) for Tsine, but on returning about 10 a.m. near the edge of a Lwin we heard a grunting at intervals of about ten or fifteen seconds. I insisted that it was a pig wallowing, but my shikari said he thought it was a tsine about to calve. We followed up the sound and then hearing a



A CAPTIVE WHITE TIGER IN REWA
From the Journal of the Bombay Natural History Society.

deep guttural grunt, we knew it was a Tiger. I told the shikari I was off home, and then put up my hand to show him a road out of the Lwin, when from about 10 yards off in front of us a big black mass made two bounds and was away. I let off my .577 at it at about 15 yards range, and I think hit it in the stomach. The animal being quite black, I turned to the shikari and told him it was a pig, while he insisted it was a bear, but on tracking up we found enormous pug marks (they measured 1 foot 8 inches round). After the shot it went on for some 5 or 6 yards, stopped for a moment, and then went on another hundred yards and started growling again. We then left and returned next day, but could not find it. It was evidently hit, as it had torn up a lot of undergrowth and small bushes." As Mr. T. A. Hauxwell, Conservator of Forests, whose son wrote the letter, added : " It is a great pity that the animal was not obtained, as even if the remains are found later on, there will probably be no traces of its having been black." He said that his son had shot several Tigers and knew what a black leopard is. The tracks of that size were certainly those of a Tiger, but whether they were those of the animal he saw, and whether the black appearance was actual or due to deep shade does not appear certain. Moreover, he may have been deceived as was Colonel Pollok, who at dawn one day fired at a " black " Tiger. He took up the tracks when it was lighter, and killed the beast, when he was disappointed to find that it was an ordinary Tiger. It had been rolling in the burnt grass, and looked quite black in the dim light.¹

The most authentic record of a black Tiger is

¹ *Fifty Years' Reminiscences of India.* By Colonel Pollok. Arnold. 1896.

contained in a letter written to *The Field* by Mr. C. T. Buckland, F.Z.S., in 1889. He wrote: "Before I go hence and am no more seen, I wish to state that I and several others saw a dead black Tiger at Chittagong, and from entries in my diary, which was pretty regularly kept, I know that it was in March 1846. The news was brought into the station that a dead black Tiger was lying near the road that leads to Tipperah, distant about two miles from Chittagong. In the early morning we rode out to see it, but several of the party—Sir H. Ricketts, Mr. Fulwar Skipwith, Captain Swatman, and Captain Hore—are no longer alive, and I cannot produce my eyewitnesses to attest my statement, although several friends to whom I have written recollect that they heard something about it at the time.

"I remember perfectly well that the body of the animal was lying in the low bush-jungle, about twenty yards south of the road, and we dismounted to go and look at it. It was a full-sized Tiger, and the skin was black or very dark brown, so that the stripes showed rather a darker black in the sunlight, just as spots are visible on the skin of a black leopard. The Tiger had been killed by a poisoned arrow, and had wandered away more than a mile from the place where it was wounded before it lay down to die. By the time we arrived the carcass was swollen, the flies were buzzing about it, and decomposition had set in, so that those of our party who knew best decided that the skin could not be saved. I was young and inexperienced, but Captain Swatman, who was in charge of the Government kheddass, and Captain Hore (afterwards Lord Ruthven), of the 25th N.I., were well-known sportsmen, and had each of them killed many Tigers.

No doubt was expressed about the animal being a black Tiger, and I have often mentioned the fact in conversation from time to time. For several weeks before we saw the dead body the natives had reported that there was a black Tiger which infested a range of hills behind the military cantonment at Chittagong. More than once, when the herdsmen brought word that it had killed a cow, Captain Swatman sent an elephant and howdah for me, and we beat through the jungle in vain for it.

“Probably our tactics were bad, as we invariably went right up to the body of the murdered cow, and the Tiger sneaked off, on hearing the noise of the elephants, into the extensive and impenetrable coverts. We did not attach any importance to the native statement that the Tiger was ‘black’ as we supposed that the epithet was only a fanciful description of the animal. When, however, we had seen the black skin of the body of the dead Tiger, we concluded the native authorities had not been drawing on their imagination when they used the epithet ‘black!’”

While coloration is interesting in itself, its origin or evolution and its uses are of primary importance in a consideration of the life history of an animal. This question is, perhaps, of particular interest in connection with the great carnivora. There can be no doubt that, while coloration has its uses, there is often a tendency, carried to extreme lengths, to exaggerate its protective and obliterative functions. The striping of the Tiger is generally supposed to assist the animal in escaping observation in surroundings, such as long grass, which it frequents. But it does not always frequent long grass, although we must in this respect look rather to its environment in those northern regions where the

race is supposed to have its origin, and where coloration was therefore developed. We are generally inclined to regard the Tiger as a resident of Indian and other sub-tropical jungles where, as Sir Samuel Baker wrote, "the striped skin harmonises in a peculiar manner with dry sticks, yellowish tufts of grass, and the remains of burnt stumps, which are so frequently the family of colours that form the surroundings of the animal." That is true, but it must be borne in mind that the surroundings vary according to locality and are by no means constant.

Coloration, moreover, is of value only when an animal is at rest. It is of no service to one whose movement betrays it at once, whatever its coloration may be. And, as Selous observed, "well-known naturalists appear to assume that both carnivorous and herbivorous animals trust entirely to their sense of sight, the former to find their prey and the latter to avoid the approach of enemies." The Tiger is quick to perceive movement; it does not readily distinguish the nature of immobile objects, and that not merely when their coloration is assimilated to the surroundings; it will stare at a man with unseeing eyes, even at a comparatively short distance, perhaps twenty to thirty yards, unable to make him out until he moves. No doubt coloration is of value to a beast of prey in a gradual approach up wind, obliterating the animal during the intervals when it remains without movement.

The Tiger, at any rate in hot climates, generally hunts by night, when coloration is of little or no service, although it is inconspicuous, appearing grey in moonlight or crepuscular light. But in northern latitudes, it probably pursues its prey as often by day, as it does at times in the cold weather in India, and it has previously

been pointed out that in sunlight many animals appear black, or even white, where they are otherwise coloured. The striped zebra looks grey in bright sunlight in bush jungle. Without ascribing too high a significance to the coloration of animals, it is certain that it is of value for purposes of protection or obliteration, and has been an operative cause in evolution.

It must not be forgotten that the stripes appear to bear some relation to anatomical structure, corresponding with the ribs, as the dorsal stripe in some animals corresponds with the vertebral column in which also the pattern of the Tiger has its origin. Professor Beddard¹ points out that the white marks on the head of the Tiger correspond to the area of distribution of the infra-orbital nerves. The nerves terminate in or near the skin, and disease of the nerves in connection with the muscles for contraction of the skin may cause absence of pigmentation. Perhaps there is some such cause of the coloration of the white specimens.

¹ *Animal Coloration*. Macmillan. 1895.

CHAPTER III

THE SIZE OF TIGERS

THE exact length to which particular Tigers have attained or may attain is not in itself of very great moment. It may be held that other things, such as weight and all-round measurements, are of more importance in making up the size of an animal, especially where the total length is recorded without separate measurement of the tail, which may vary in length from about 2 feet 9 inches to 3 feet 8 inches. Obviously an animal with a very long body and a short tail may be much bigger than one with a shorter body and much longer tail, although the total length of the latter may be the greater.

But the subject of the length of Tigers has for many years excited so much controversy that an exhaustive examination of the question should be of interest to all sportsmen and naturalists. Moreover, records of weight and of other measurements are far less frequent than those of length. Another particular of importance is the size of the skull, generally an indication of bulk if not of length, especially as its dimensions are more easily and correctly recorded than any others, and are capable of permanent preservation in the form of the skull itself.

Some aspects of the question of length have not hitherto been fully discussed, and fresh points of view, based on documentary evidence, may well be considered. The sources of information are extensive,

but many of them are not generally easy of access. There are not only books published by many sportsmen during the past hundred years or more, but old magazines, long since defunct, which are rare and difficult to come by.

Some write of the controversy as though it were of recent origin. For example it has been stated quite recently that "a close study of Tiger literature reveals the existence of the 12-foot Tiger (*Felis elongatus* of the sceptic). Hunters in olden days, whose veracity cannot be challenged, have vouched for Tigers of 12 feet. The twentieth-century sportsman, however, must not expect to find such specimens in parts which are now over-shot." But a close study of the question, if made, has never hitherto been published. Moreover, it is not a question of 12-foot Tigers in the twentieth century, or in over-shot parts of India. The debate on this subject dates back beyond a hundred years, when no part of India was over-shot. And well into the twentieth century, if not to-day, there were many parts which were still not over-shot, where the animal had every chance of attaining its fullest development. At the close of the nineteenth century, there were within my personal experience, parts which had been so seldom shot over that a white man had not been seen within the memory of the oldest inhabitant. It contained some immense Tigers, but none of these when shot proved to be over 10 feet in length in a straight line from nose to tip. Sir S. Eardley-Wilmot, an eminent Forest Officer who had shot many Tigers in the past fifty years, wrote in the Bombay Natural History Society's Journal: "if Tigers over 10 feet 3 inches exist in the United Provinces, I have been unfortunate in not seeing them, dead or alive."

Many mistakes have been perpetuated in natural history as well as in other history by repeating in books what has been written in other books without reference to original sources of information, which are naturally difficult of access where they consist of private diaries, or are not to be relied upon where they are based on memory. A fine sportsman and observant naturalist, the late G. P. Sanderson, remarked in his *Thirteen Years among the Wild Beasts of India* that it invariably happened in his experience, that when the narrators of stories of 11- and 12-foot Tigers were brought to book, they could appeal to no authority more satisfactory than their own memory or that of friends. He added: "When a man has assured me that the length of a Tiger greatly in excess of the ordinary size is indelibly impressed on his memory, I have never failed to express my regret that it was not, at the time, indelibly impressed upon his note-book. A sportsman cannot be too careful in this particular. Perfect exactness in his description of the animal is an aim he should always keep in view. For this purpose the memory is not a safe witness. It may be laid down as an axiom that the note-book of the sportsman is the only safe evidence, and that all other, whatever be its nature, must be disregarded." Probably we can all endorse the truth of this opinion. The present writer has just looked up the record of a trout caught in Norway, for many years supposed to be and spoken of as six pounds in weight; the note-book records it as only five pounds.

The late Mr. J. D. Inverarity, as famous a big-game hunter as he was a lawyer, when addressing the Bombay Natural History Society on the Tiger, said: "I have been able to correct my memory by notes made at the

time. When looking up materials for this paper, I was surprised to find how many small but valuable details I should have forgotten without the aid of my journal. I meant to have astonished you with some exceptionally large Tigers, but as my notes show them to have been considerably smaller than I should have imagined, if trusting to memory alone, I am unable to do so."

There is no need whatever to "challenge the veracity" of any hunters, either in olden or recent days. But their methods of record and measurement may legitimately be discussed and compared, and the accuracy of their memories may be doubted. A close study of such old publications as *The Oriental Sporting Magazine*, *The Bengal Sporting Magazine*, and *The India Sporting Review*, for example, as well as of books by sportsmen and naturalists throws much light on the subject. In the first place such a study reveals that it was undoubtedly in many cases, and probably throughout India, at one time the custom to record the length of the stripped and stretched skin as the length of the Tiger. Indeed, within the last three or four years a sportsman found this method still prevalent in a district in Northern India. It is interesting to note that on page 1733 of *The Bengal Sporting Magazine* for 1834 the sportsman is instructed how to stretch a 10 foot 6 inch skin to 12 feet. A well-stretched skin may measure up to 3 feet longer than the animal it belonged to. With few exceptions, it is only within the last fifty or sixty years that modern methods of exact observation and record in measurements as in other respects came into practice, and it was still later that such methods were adopted by anything like the generality of sportsmen. The length naturally varies

with the methods of measurement, and only those measured on a uniform system, such as in a straight line from end to end, can be properly compared.

The subject is certainly as old as the oldest book on Indian sport. Williamson wrote in his *Oriental Field Sports*, 1807 : " I never heard of a Tiger infesting a country, nor indeed of one being killed, but that he was the largest ever seen ! However, in spite of such frequency of monstrous growth, I venture to assert that nine in ten do not measure ten feet from the tip of the nose to the tip of the tail. I am sensible that, when in a state of provocation, they swell themselves greatly, for which the bristling up of their fur will account sufficiently." Probably none of us would care to measure a Tiger " in a state of provocation." But Williamson himself fell from grace when he wrote later : " The Tiger proved to be the largest ever killed on Cossimbazar Island. He was thirteen feet and a few inches from the tip of his nose to the end of his tail, and in a right line as he lay, from the sole of his foot to the top of his withers between the shoulders, gave very nearly four feet for his height. However, when standing the bulk diminishes greatly at that point ; probably, could he have been measured alive, he would have lost not less than eight or ten inches in stature."

It may be stated at this point that the average length of a full-grown male Tiger is somewhere about 9 feet if measured in a straight line, the animal being laid on his back and measurements being taken between pegs placed at the point of the nose, and the point of the tail ; this would allow for a tail ordinarily 3 feet in length. Measured in what is called " sportsman fashion " round the curves of the body, from the nose following a line between the ears and along the spine, the same

animal might be from five to nine inches longer; Tigresses are about a foot less.

The Tiger is a very symmetrical animal; if we allow a 12-foot Tiger a tail of 3 feet 6 inches, that implies a body length of 8 feet 6 inches; if measured in a straight line, it would probably be not less than 7 feet 9 inches long. If a space of 12 feet square is measured out on a wall, and a Tiger sketched in the space with corresponding dimensions, it certainly appears to be a monster of the prime, of unimaginable size in comparison with one of ordinary dimensions.

There are some excellent accounts of Tiger-hunting in *The Oriental Sporting Magazine* for 1828-33, but the first mention of length is that of a 9 feet 7 inches Tiger shot near Ootacamund in 1829. Another writer remarks on the "Taptee Tigers being remarkable for their small size," probably because of the extreme lengths he had heard claimed in other parts of the country. There is no reason to suppose that the Tapti animals are or have been smaller than any others. The same magazine for November 1831 gives the dimensions of a Tiger and Tigress killed near Dharwar by a party consisting of Walter Campbell, author of *The Old Forest Ranger*, a famous book in the last century, his brother, and Walter Elliot, of the Madras Civil Service, a fine sportsman.

	Tiger.		Tigress.	
	ft.	in.	ft.	in.
Length from nose to end of tail	9	5	8	4
Length of tail	2	10		
Height from heel to shoulder	3	2		
Length from shoulder to point of toe	3	11	3	2 $\frac{1}{2}$
Girth of body immediately behind shoulder	5	3	3	6
Girth of foreleg	2	7		
Girth of head	3	3	2	2 $\frac{3}{4}$
Girth of neck	3	0	2	1 $\frac{1}{2}$

Some of the measurements are of the same Tiger from Campbell's book *My Indian Journal*. The writer in the magazine, probably Walter Elliot, states that this was a very old Tiger, considerably larger than any other he had ever seen. It was shot by one of the Campbells. In his own journal Elliot gave the size of the largest male and female of any out of 70 to 80 he himself killed in the Southern Mahratta country between 1829 and 1833, as follows :

	Tiger.		Tigress.	
	ft.	in.	ft.	in.
Length from nose to insertion of tail	6	2	5	3½
Tail	3	1½	2	11
Height at shoulder	3	2	2	9
Circumference behind shoulder	4	3	3	6
Circumference of forearm below elbow	1	8	1	2½
Circumference of neck	2	8	2	1½
Circumference of head	2	9	2	1½
Circumference of forearm above elbow	2	3		
Weight	380 lbs.		240 lbs.	

These measurements may be compared with those of an 11-foot Tiger shot by Mr. J. Shillingford in Purneah, Bengal, in 1868, and of a Tigress shot in Nepal by the Maharaja of Bikanir in 1920, recorded as follows :

	Tiger.		Tigress.	
	ft.	in.	ft.	in.
Length of body	7	8	6	5
Length of tail	3	4	3	2
Head, circumference	2	10	2	3¾
Girth	4	6	3	6½
Height	3	7	3	1
Forearm	2	2	1	5½

Mr. J. Shillingford also claimed one of 11 feet 5 inches, shot on 3rd November, 1868.

In commenting on the measurements of the Campbell Tigers, given above, a writer calling himself " A Mull "

in *The Oriental Sporting Magazine* for February 1832, "hopes to show that the Khandesh Tigers are of a much larger size than those of the Southern Mahratta country." He states that the skin of the largest he ever saw, killed by Captain O. (probably James Outram) and himself near Ranjingaum in Khandesh in 1829, measured when dried and stretched 12 feet 2 inches from the nose to the end of the tail, and that "exact measurements taken with a string" shortly after the animal was killed were, from the nose to end of tail, 11 feet 9 inches ; from shoulder to toe 4 feet 6 inches ; round the foreleg, 3 feet 1 inch. Both the measurements taken with a string and those of the dried skin are valueless, except that the difference of only 5 inches indicates that the animal must have been very much smaller than stated. The writer also states that in Khandesh and the Ajanta country "any Tiger under 10 feet 9 inches would be called small" and that "Tigresses measure 9 feet to 9 feet 8 inches."

These records are interesting in showing the lax methods of measurement in those times. My own specimens show that the dried skin is from 1 to 3 feet longer than the animal measured when dead, so the difference of only 5 inches in "A Mull's" Tiger is abnormal. I measured 26 male and 14 female Tigers in country not far distant from Khandesh and Ajanta ; the two largest males measured 9 feet 8 inches, and the largest female 8 feet 6 inches. This was in the last decade of the nineteenth century, in country that had been little shot over.

Campbell, "The Old Forest Ranger," was an experienced sportsman and more observant than most of his time. He wrote in the Notes at the end of his book : "We constantly hear of Tigers measuring 12

and 15 feet in length, and I lately saw an account of one which was said to have measured 24 feet. But I never met with a Tiger that exceeded 10 feet in length, and although I have been at some pains to collect information on the subject, I never could obtain any authentic account of a Tiger exceeding 11 feet in length. I conclude that the measurements of the 15-foot Tigers we hear of have been taken from raw hides, stretched out to their utmost extent; and that the enormous size of my friend of 24 feet must be attributed to some mistake of the printer."

Walter Elliot wrote in a footnote to Campbell's book *My Indian Journal*, published in 1864: "A Tiger of 9 feet 5 inches may be pronounced by some sportsmen, accustomed to hear of Tigers of 12 and even of 14 feet in length, to be a small specimen. But such was by no means the case. The animal in question was a full-sized specimen, of very thick robust shape, and was measured with scrupulous accuracy, and without the natural wish of young sportsmen to magnify the size of their victim. There are many ways in which measurements of large game are taken. Many, I may say most men, content themselves with taking the length of the skin when pegged out to dry, after the beast has been flayed. It is thus that the 12 and 14 feet measurements are obtained. From the examination of a great number of individuals—not less than 200 to 300 carefully measured—I am satisfied that few Tigers exceed 10 feet in length, and that the majority fall short of that limit."

He wrote regarding the dimensions of the Tigers he killed between 1829 and 1833: "Most persons content themselves with measuring the skin of an animal after it is taken off, and I once measured a lion of 9 feet

4 inches which was noted by another of the party in his journal as 11 feet, and by a third as 12 feet, the one having measured the skin newly taken off and pulled out, the other when it was stretched to the utmost by pegs to dry." These notes are interesting as they reveal the methods well known in those times, but generally ignored in modern debate. And they show that the subject aroused interest and controversy a hundred years ago, and is not merely a recently discussed question, due to the diminution of Tigers in over-shot country, as is too often assumed. It may be remarked that we do not hear from Africa of 11 and 12-foot lions, although skull and other measurements indicate that there is little if any difference between the lion and the Tiger.

The Bengal Sporting Magazine for 1834 contains the following account of a Tiger killed in the Gorakhpur terai : " We found on measuring that he stood upwards of fourteen hands and a half (4 feet 10 inches !), his length being 11 feet. (His skin now measures 13 feet by 5 across the narrowest part, the tail now 3 feet.) This would, however, give a very faint idea of his immense power and bulk. His head was like that of a bull-dog to a terrier's, as compared with other large Tigers : and the skull at least one-third larger than any other at present in my possession." It is a pity the measurements of the skull were not given, for it should by this computation have measured some 20 inches in length by $13\frac{1}{2}$ inches across the zygomatic arches, which may be compared with a very large skull measuring 15 by 10.

The well-known naturalist Blyth, commenting on this Tiger in the *India Sporting Review* for February 1856, wrote : " I suspect the foregoing measurements

are respectively those of the skin freshly taken off, and of the same skin when stretched to the utmost. There is even a story current of a Tiger-skin 18 feet long which was presented by Hyder Ali to the Nawab of Arcot ! ”

There is no more reason to challenge the veracity of the late General W. Rice, or of others who have been quoted, than of those generally given in support of the 12-foot Tiger. General Rice, in his book *Tiger-hunting in India*, relates that he and his friends killed 68 Tigers in Rajputana and Central India between 1850 and 1854. The largest measured 12 feet 7½ inches ; two others were 12 feet 6¾ inches and 12 feet 2 inches respectively. Eleven measured 11 feet or more, including two of 11 feet 11 inches, three of 11 feet 10 inches, one of 11 feet 9 inches, two of 11 feet 8 inches ; three of 11 feet 6 inches, and one of 11 feet. A young one measured 9 feet 4 inches. A dozen Tigresses are no less remarkable, ranging from 11 feet 6 inches, 11 feet, and 10 feet 6 inches, to the smallest which was 9 feet. Rice reads true, and I would not for a moment question his veracity, but only his methods of measurement, which, however, are not stated. But he does say that in one case he “ pegged the skin down by candle-light, fearing it might shrink ; it measured 11 feet 8 inches long, and was very wide.” This is an indication that his measurements were all taken from stripped skins in accordance with the prevailing custom, as indeed they must have been.

It must always be borne in mind in studying the literature of the subject that, as an American lady wrote in a very entertaining book,¹ “ There are several ways of measuring a Tiger. The favourite amateur

¹ *Trailing the Tiger*. By Mary Hastings Bradley. Appleton.

way is to take a tape measure and follow every convolution of its curves to the end of the tail. In this way some remarkable results are obtained. Or you can have the skin stretched and offer that as irrefutable evidence. But the real way is to put a stake at the Tiger's nose and another at the base of his tail, and measure the straight line between, the length of the tail being separately recorded." One shot in Annam measured—6 feet 3 inches body; 3 feet tail; 42 inches height to top of shoulder; 44 inches height to top of vertebræ; 9 inches pad of fore foot; $32\frac{1}{2}$ inches round chops in front of ears; $9\frac{1}{2}$ inches between ears at base; $58\frac{1}{2}$ inches girth.

Colonel Pollok (*Fifty Years' Reminiscences*) measured a 9 foot 7 inches Tiger, the skin of which, pegged out, was close on 13 feet long.

I measured forty Tigers shot by myself and friends in the Deccan between 1895 and 1899. Of these, measured in a straight line from nose to tip of tail, only two attained a length of 9 feet 8 inches, and the largest Tigress 8 feet 6 inches, including some 3 feet of tail. Measured along the curves, the largest might have been as much as 10 feet and an inch or two in length. Sixteen were very large males, with bodies 6 feet or more in length, and a number were killed in country very little shot over. Yet not one of these approached the great beasts shot by Rice, if the latter were measured in the flesh and not from skins. And if Rice measured stretched skins, why should not others, "whose veracity cannot be challenged," have done the same? It was evidently at one time the customary method; and when measurements were taken from the dead animal, they followed the curves as already described, a method not conducive to

accuracy. Why should an animal be measured along the curves, any more than a human being, whose curves are sometimes very pronounced, both behind and before? It may be answered perhaps that the one walks on all-fours and the other upright! The idea of measuring in a straight line between pegs placed at the nose, the root of the tail, and the tip of the tail, the Tiger being laid on its back with the head pulled straight, does not appear to have been thought of until comparatively recent times.

The eminent naturalist Dr. T. C. Jerdon, who spent many years in India in the first half of the last century, and had much practical experience of wild animals, wrote: "The average size of a full-grown male Tiger is from 9 to $9\frac{1}{2}$ feet in length, but I fancy there is little doubt that occasionally Tigers are killed 10 feet in length and perhaps a few inches over; but the stories of Tigers 11 and 12 feet in length, so often heard and repeated, certainly require confirmation, and I have not myself seen an authentic account of a Tiger that measured more than 10 feet 2 or 3 inches."

Captain J. H. Baldwin, an observant hunter and naturalist, who wrote in 1876, agreed with this view and said that he had "consulted some of our most experienced Bengal sportsmen" who concurred with him. G. P. Sanderson, already referred to, wrote in the same year—"Regarding the size of Tigers, once a much-disputed point, all careful observers are, I believe, agreed in accepting Jerdon's view as thoroughly correct." He added that "he knew two noted Bengal sportsmen who could each count Tigers slain by them by hundreds, whose opinions entirely corroborate Jerdon's." In a "Record of Bags" for four years amounting to 117 Tigers, "Veritas" states in *The*

India Sporting Review for February 1856 : " A Tiger just killed measured 10 feet 3 inches ; we seldom get them longer than this in these parts (Assam), but then we measure them fairly before skinning them, and not as in a neighbouring district where I am told they stretch the skin out as much as they possibly can, and then send an account of having killed a 12 or 13-foot Tiger."

The Oriental Sporting Magazine contains many other records, some of fair and reasonable measurements, and others evidently from stretched skins. " Thane Raymond," writing of shooting in the Berhampooter Churs, gives both measurements. He kills " a finely marked Tigress, 8 feet 6 inches long, skin stretched 10 feet 6 inches," and " an immense Tiger, 10 feet as he lay, his skin when stretched measured 12 feet 6 inches." The last of eight killed on this expedition was " as lank as a greyhound, with an enormous head and standing as high as any Tiger I ever saw ; his height from the toe to a stick placed across his back was 4 feet, and if you allow three inches for the bend of his foot, he would stand alive some 3 feet 7 inches ; he measured 9 feet 10 inches, and the skin when stretched 12 feet 3 inches."

This was in December 1865 ; in the same magazine for January 1865, " Bon Accord," in the distinguished company of Julius Cæsar, killed in the North-West Provinces a Tiger whose skin measured 10 feet 9 inches when stretched. And later " Y. S." tells of the destruction of a Singapore man-eater measuring 10 feet 11 inches from tip to tip.

The Purneah District of Bengal, the great indigo country before vegetable dye was ousted by the synthetic product, appears to have produced a giant race of Tigers. Among the indigo planters were the

Shillingford family, the members of which, including three or four brothers and their friends, killed 170 Tigers in the years 1865 to 1878. These were "registered" by Mr. J. L. Shillingford, and comprised one of 11 feet 5 inches, and four of 11 feet, as well as six Tigresses over 9 feet 6 inches in length. The dimensions of one of the 11-foot Tigers have already been given in this chapter. It is also recorded that Mr. C. Shillingford, perhaps the father of these brothers, killed a Tiger in the same district in 1849 measuring as he fell 12 feet 4 inches.

Mr. J. L. Shillingford described his method of measurement in *The Asian* of 23rd December, 1879, an excellent Calcutta sporting paper, as follows: "Applying the tape to the tip of the nose, it is carried along the middle of it to between the ears, then along the vertebræ to the root of the tail, which appendage being straightened out, the measurement is completed to the end of it." This is the approved method known as "sportsman fashion," which adds from six to nine inches to the method of measuring in a straight line between pegs.

At this point we may consider the length of two Tigers shot in Gwalior by two Viceroys, Lords Hardinge and Reading. Lord Hardinge's (see *The Field* of 30th August, 1923) was measured as 11 feet 5½ inches round the curves in the presence of twenty-five people, eighteen of whom signed a certificate as to the measurement. The dressed skin is recorded as 11 feet 4 inches, which seems more like that of a 10-foot animal. Lord Reading's was measured "as best we could while lying in a dried-up watercourse surrounded by rocks." Mr. Dunbar Brander, writing in *The Field*, rejected the evidence for these measurements, and

there could be no more competent opinion, especially when supported by that of Sir John Hewett who has himself measured or seen measured 241 Tigers, and who remarked that the Gwalior animals "cannot have been measured with the precision that is vital before such records can be accepted." There seems to be no reason why the same remark should not apply to Mr. Shillingford's measurements, taken apparently in exactly the same manner, as he himself wrote, "in the presence of the assembled group of sportsmen, generally on the very spot where they had been killed." Those who have shot many Tigers will understand the conditions, inequalities of ground, and rocks and other debris which characterise the spots where they are killed. On the other hand, if we accept Mr. Shillingford's measurements why should we not accept those from Gwalior? There appears to be no more precision in the records of one case than in the others. Let us accept or reject both.

It has been observed that Viceregal Tigers are usually exceptional, and one of the 11-foot Purneah ones was shot by Lord Mayo. It is probable that Princes or others who arrange Viceregal shoots would reserve or provide the finest available animals for their distinguished guests. But the two shot in Gwalior were apparently records for that State; and Mr. Dunbar Brander commented on the fact that the late Maharaja of Scindia is stated to have shot between 700 and 800 Tigers, and to have been present at the death of about 1400, but he says, "these beasts of 11 feet only turn up to be shot by Viceroys." However, it must be understood that the veracity of those concerned cannot be impugned, but their methods of measurement may be open to objection.

The late Maharaja of Cooch Behar, a fine sportsman and observant naturalist, kept a record of game shot between 1871 and 1907.¹ The jungles he shot over in Cooch Behar, the Duars, and Assam stretch for many miles along the foothills of the Himalayas, constituting ideal haunts where Tigers are most likely to have attained the extreme size reached by the species. The bag numbered 365 Tigers, and at the end of the period these animals were still so numerous that the bag for 1907 exceeded that for any but one of the preceding thirty-one years. His longest Tiger measured 10 feet 5 inches, the tail being 3 feet 5 inches. The longest Tigress was 9 feet 5½ inches long; the length of the tail is not given. But his biggest Tiger had a body 7 feet 1½ inches in length, with a tail of only 3 feet. It is interesting to note that Sir Montagu Gerard shot in Central India a Tiger with a body 7 feet 2 inches long, and a tail 2 feet 11 inches. The skin measured 11 feet 4 inches.

Considering all that has been written, it is permissible to suppose that an animal with a very long tail, loosely measured round the curves on the ground where it fell, might be recorded as 11 feet in length. A body of 7 feet 6 inches, measured in this fashion, would perhaps be 6 feet 9 inches long, measured in a straight line, making, with the addition of a 3 foot 6 inch tail, a Tiger of 10 feet 3 inches.

But the existence of the 11-foot Tiger, measured without precision, does not involve that of one of 12 feet. It is noticeable that records are apt to be repeated from mouth to mouth, and from book to book, until they are taken as proved. Sir Joseph Fayrer had "been informed by Indian sportsmen of

¹ *Thirty-seven Years of Big Game Shooting*. Bombay. 1908.

reliability that they have seen and killed Tigers over twelve feet in length." This cannot be accepted as evidence; the measurements may have been unrecorded, or from skins in accordance with the custom of the time. The same remark applies to one stated to have been shot at Mutiara in Oudh in 1861 by Colonel Boileau, "measuring over twelve feet," a vague specification which does not indicate a written record; the skin measured 13 feet 5 inches when removed. That would be possible with the stretched skin of a 10 foot 6 inch Tiger. We are told by Sterndale (*Mammalia*) that Sir George Yule "has heard of a 12-foot Tiger fairly measured"; hearsay is no evidence. Colonel Ramsay, Commissioner of Kumaon, killed one measuring 12 feet; how was it measured, and how recorded?

General Sir Charles Reid wrote to Sterndale that he "had a Tiger in the Exhibition of 1862, now in the Museum at Leeds, which was the largest I ever killed or ever saw. As he lay on the ground he measured 12 feet 2 inches . . . it is now not more than 11 feet 6 inches. Mr. Ward was not satisfied with the Indian curing, and had it done over again, and it shrunk nearly a foot." An animal of that length should have a skin not far short of 14 feet long. And we are told that "the late Sir Arthur Waugh told him he had killed one in the same place 13 feet." This gets us on towards the 15-foot skin! General Sir H. Green shot one near Surat an inch short of 12 feet, but as the skin measured only 12 feet 2 inches when pegged out, there is surely some discrepancy.

The particulars as to all these and other 12-foot Tigers are so vague, whether the measurements are from memory, how they were made, or whether any of

them were indelibly impressed in note-books at the time, that without in any way questioning the veracity of the gentlemen concerned, it must be said that they "cannot have been measured with the precision that is vital before such records can be accepted." The same remarks apply to those recorded in Rice's book.

A paragraph in the *Times of India* in March 1932 states that "A Tiger of record dimensions is said to have been shot in South India by Colonel G. F. Waugh, of the U.S. Army (retired), who has been shooting big game in this country for the past three years. The animal measured 11 feet in length and 4 feet high at the shoulder; girth 66 inches, weight 700 lbs., tail 43 inches." In the absence of more precise information as to how the measurements were taken, these figures cannot be accepted.

It was suggested at the beginning of this chapter that other factors such as weight and all-round measurements may be of more importance than length in making up the size of a Tiger. Such records of measurement are, however, of no more value than those of length unless taken according to some uniform method, and there are scarcely enough of them to be fully satisfactory. The usual height according to the Maharaja of Cooch Behar's list is from 3 feet to 3 feet 6 inches; anything in excess is very large, as is anything over 50 inches in girth.

Skull measurements are more satisfactory. Mr. Inverarity remarked that "the skull tells you at once whether the Tiger was a large or a small one." The measurements are not variable, and are easily taken between uprights in extreme length and across the zygomatic arches, and they constitute a permanent record. The largest of some thirty skulls of full-grown

males measured by the present writer were $14\frac{3}{4}$ by $9\frac{1}{2}$ inches ; only three measured 14 inches in length, and only seven $9\frac{1}{2}$ inches or more in width ; the widest was 10 inches across, but the length was unknown as the nasal bones were smashed by a bullet.

Some skulls over 15 inches in length have been recorded. Sterndale makes the skull of an 11-foot Tiger shot by Mr. J. Shillingford $15\cdot25$ by $10\cdot5$ inches ; but the Museum catalogue gives the size of this skull as 15 by $10\cdot3$ inches. Sir S. Eardley-Wilmot shot in the United Provinces a 10-foot Tiger having a skull 15 by $9\frac{1}{8}$ inches, and one of 9 feet 9 inches with a skull 15 by $10\frac{1}{8}$ inches. One shot in Canara by Mr. Phelps, measuring 9 feet $4\frac{1}{2}$ inches, and having " a very short tail," had a skull $15\cdot10$ by $10\cdot50$, as recorded in the Journal of the Bombay Natural History Society, Vol. X, 1895. Other large measurements recorded in the same Journal, Vol. IX, were, between uprights, a Tiger of 9 feet $7\frac{1}{2}$ inches, skull $14\frac{1}{4}$ by $10\frac{1}{2}$, and one, length not given, skull $14\frac{7}{8}$ by $10\frac{3}{8}$; these were shot in Canara by Mr. Hugh Murray.

The most complete and important record of the weight of Tigers in Northern India is that of the Maharaja of Cooch Behar, whose heaviest one weighed 546 lbs., but he shot one which he thought must have been over 600 lbs. Seven weighed over 500 lbs., and a dozen or so between 450 and 500 lbs. But the heaviest shot by Captain Hunter in the Central Provinces weighed 563 lbs. Colonel H. Frazer, who hunted in Hyderabad, gave in the *Oriental Sporting Magazine* the weights of five over 400 lbs., the heaviest being $447\frac{1}{2}$ lbs. His heaviest Tigress out of a dozen weighed 330 lbs., and four others 280 lbs. or more. In the *Indian Forester* of November 1908 weights of 386 to

419 lbs. are recorded for Tigers and 265 lbs. for a Tigress. Colonel R. W. Burton weighed several Tigers over 400 lbs. Captain M. H. Hunter recorded weights of six Tigers between 420 and 563 lbs.

Captain Forsyth (*The Highlands of Central India*), who shot in the Central Provinces, gives the weight of Tigers as from 450 to 500 lbs. and says "one must have touched 700 lbs.," but appearances are deceptive. Sanderson weighed only one, 349½ lbs., and imagined this to be "about the extreme weight." But perhaps in South India they are small, although those of Canara are certainly large. However, there must be exceptions, for Mr. W. T. Hornaday, the well-known American naturalist, shot in the Anamallai Hills one weighing 495 lbs. He gives its length as 9 feet 8½ inches, tail 3 feet 6 inches, height 3 feet 7 inches, girth 4 feet 2 inches—quite equal to a big Bengal Tiger. Many over 400 lbs. have been weighed, but it seems probable that anything over 450 lbs. is very heavy, and that 500 lbs. is enormous, while over 400 lbs. is above the average.

CHAPTER IV

GEOGRAPHICAL DISTRIBUTION

ALTHOUGH the Tiger is a typically Indian animal, it inhabits a great part of Asia, and is generally supposed to have migrated into India from Northern Asia, coming by way of the Eastern Himalayas through Nepal and Bhutan. Its original home was probably in the far north towards the Arctic, where the bones of Tigers, apparently identical with those of the existing species, have been found in pleistocene formations together with those of other animals still living. These remains date no doubt from a period before the ice-cap reached as far south as it is to-day, indicating that in those times a temperate climate extended to the Arctic circle where animals wandered in primeval jungle. Not only the fauna but the flora of the pleistocene regions of Northern Asia were appropriate to a temperate zone. Trees, shrubs, and grass furnished food for ungulates, and these oxen, deer, and antelope in their turn attracted the great carnivorous animals which preyed upon them.

From these regions the Tiger extended his habitat not only to the south and east but to the south-east and south-west, although he does not appear to have reached Europe in a wild state. There is no mention of him before Alexander of Macedon extended his conquests far into Asia ; lions but not Tigers harassed the baggage-train of Xerxes' army in the mountains

of Thrace, while within historic times the Tiger has been confined to Asia. But it is stated by Mr. F. Lühr in the *Mittelungen* of the fur trade at Leipzig that "in the extreme south-east of the Caucasus, close to the Caspian lowland, is an outpost of Asia where Tigers occur among other immigrants. Their prey is the wild hog, and they are mostly found in Muhammadan districts, where the people do not eat swine."

It is still found in the forests and reed-beds of Eastern Siberia, and in Corea, Mongolia, and Northern China. From there it extends not only into Southern China, but to the Malay Peninsula and the islands of Java ; Sumatra and Bali, its eastern limit in the archipelago. Evidently volcanic action has at different periods raised and lowered the ocean bed of these seas, and has affected the migration of species, the islands displaying a remarkable variation in the distribution of plants and animals.

It is found throughout Burma, and in suitable localities everywhere in India, but not in Ceylon. In the early half of the last century the Rev. R. Everest wrote that the Tiger was rare in the Himalayas, but that he found their tracks in the snow near his house, and, while he was shooting at a height of 5,000 or 6,000 feet, one of his people was carried off by a man-eater. He added that they remained all the year round on Nagtiba mountain, north of Mussoorie, nearly 10,000 feet above the sea, subsisting principally on hogs and bears. These were said to be seldom man-eaters, but a case was recorded of a girl carried off and dropped by a Tiger, and she was found to be "absolutely without a wound." The man-eating Tigress of Mandali near Chakrata, killed by Mr. Osmaston in 1889, haunted a ridge 10,000 feet above sea-level ;

when this was covered with snow in winter, she descended to lower elevations.

In Western Asia, Hyrcania was famed for its Tigers in ancient times, and they still linger in that region, especially in the forests of the Elburz along the southern shores of the Caspian Sea. Colonel Chesney (*Journal of the Euphrates Expedition*) noted their occurrence in Daghestan, west of the Caspian, and in Turkish Georgia. The naturalist Blyth wrote in 1855 that Tournefort related that the middle region and even the snow limit of Ararat was infested with them. He saw them within a hundred yards, and the young used to be caught in traps by the people round the mountain, to be exhibited in wild beast shows throughout Persia. In Gruzia, at the foot of the Caucasus, a large Tiger is mentioned by Kotzebue, supposed to have been driven by hunger from the plain of Baghdad ; but that is a lion country, not inhabited by Tigers. M. Ménétries wrote eighty years ago : “ During our stay at Linkora, I had the good fortune to obtain a Tiger that had been killed only about fifteen versts (eight miles) off. It did not appear to differ from the Bengal animal, even in the skull. It appears that one at least is killed every year in the vicinity, perhaps having been pursued by hunters until it sought refuge in the forests of the Kour. It is not, I believe, found in the Caucasus ; the skins sent to Europe thence having probably been brought from Georgia.”

According to Morier the Tiger occurred in the vicinity of Tabriz. Sir John McNeill saw one killed in Persia at the foot of the Elburz Mountains near the Caspian. Elphinstone said that it inhabited the wooded parts of Afghanistan, where it does not occur to-day ; and Vigne declared that it was well known in the Safed

Koh, while Irwin stated that it was found as far as Tash Kud, and Burnes characterised the Tiger of the Oxus Valley as "a diminutive species." In 1891, Captain (afterwards Brigadier-General) E. B. Burton saw some Tigers, smaller than the Indian ones, in cages near Teheran; they were said to have come from Mazanderan.

The Tiger inhabits more intricate country than the open plains beloved by the lion; it is a forest-loving animal, and so the two species do not appear to be found in one and the same locality, although stray lions have been shot in the Tiger-haunted jungles of Central and Western India. It is interesting to conjecture whether the Tiger has not expelled the lion from a great part of India, where the latter may have formerly been found, not by superior physical strength, but by the pressure of an animal possessing higher powers of survival in the struggle for existence. Traces of the presence of lions in regions from which they have disappeared are to be found in many parts of India. One of the incarnations of Vishnu is the man-lion of Hindu mythology whose name is preserved in Sinachalam, the Lion-mountain of Vizianagram, a famous place of pilgrimage on the east coast. Sinachalam tops an eminence approached by a flight of many steps worn by the feet of countless millions of devotees who are now as the dust they trod.

An interesting question is that of the period of the migration of the Tiger. If it is accepted that the cradle of the race is in the formerly temperate regions within the Arctic circle, migration was probably gradual and coincident with the receding of the temperate zone before the southward flow of the ice-cap. Tigers, with the long fur and under-pelage to be expected in that climatic environment, are to be found in extremely cold

latitudes. A fine pair of Manchurian Tigers inhabited the enclosure at the back of the lion-house in the Regent's Park Zoological Gardens in 1904 and afterwards, and skins from the Ussuri district of Eastern Siberia were offered for sale at the great fair of Nijni Novgorod in 1893. Sir C. Bell, in his *People of Thibet*, has a picture of "Mongol leading Tiger" used for a symbol of strength.

The Tiger does not, like the lion, figure in the sculptures of Egypt and Babylon, nor is it mentioned in the Bible. Its immigration into India, probably by way of the Eastern Himalayas through Nepal and Bhutan, is supposed to be of comparatively recent date. It is not found in Ceylon, where the leopard is common, and where the fauna comprises many other Indian species. It is interesting to note that while the fauna of Ceylon generally resembles that of southern India, its plant-life differs considerably from that of the Peninsula. Perhaps the inference is that Ceylon was separated from the mainland before the Tiger reached South India. Or, owing to being cut off by the nature of the country, stretches of open desert or cultivation, it may have never wandered far enough to the south to attempt a passage of the strait. Probably the separation of Ceylon occurred earlier than that of Java and Sumatra from the Malay Peninsula, or the species may have extended through Malaya before it reached peninsular India.

Other reasons for the supposed recent immigration of the Tiger into India are its impatience of heat and thirst, and the fact that the young are thickly furred. But in tropical climates all animals are impatient of heat and thirst, and the young of all animals have thicker, longer, and softer fur than they have in

maturity. Those who have been in tropical and sub-tropical countries are aware that all animals from man downwards suffer from heat and avoid activities during its prevalence in the middle of the day, even the birds gasping with open beaks. Certainly the panther or leopard is not as addicted to lying in water as the Tiger is, and does not take readily to water, while it is often found at a distance in dry places, the Tiger seldom wandering far from water. But many animals are nocturnal, probably as much owing to impatience of heat as from the desire of concealment. In temperate climates the Tiger is more addicted to hunting by daylight.

It has been suggested that immigration into India occurred within the last 2,000 years, when Sanscrit became a written language, for the reason that there is no Sanscrit word for Tiger. This is, however, erroneous, for we have in Sanscrit the word *vyaghra*, and *chita vyaghra* for spotted Tiger or leopard. A writer in the *Oriental Sporting Magazine* says that the Tiger was called *byaghro* or *bagh* in the Sundarbans. These words occur in Hindi, a language of Sanscrit origin, *bagh* or *wagh* being a Tiger, and *chita bagh*, a leopard; and *sinh*, lion, but often *bagh* is used indiscriminately for both animals, and even *untia bagh* for lion, *untia* being "camel-coloured." The word *vyaghra*, *wagh*, or *bagh* is found in the names of places, such as Waghderi, tiger-valley, Waghdo and Wagholi, the place of the Tiger. The word is also found in *waghnak*, tiger-claws, a Maratha weapon with claws of steel, used by Sivaji, the founder of the Maratha Empire, when he murdered Afzul Khan, the Mughal General, while embracing him in friendly fashion. The *waghnak* tore out the General's entrails.



A "MANED " TIGER

But there are other reasons for placing immigration into India at a much earlier date, although not as far back as the separation of Ceylon from the mainland. I have elsewhere¹ mentioned that during excavations in the ruins of the ancient buried city of Mohenjo-Daro in the valley of the Indus, seals engraved with figures of the Tiger have been found, suggesting that this is a proof that immigration into India occurred at least fifty centuries ago, for the city is said to date back about 5,000 years. On one of these seals there is a representation of a man sitting in a tree, angrily apostrophising a Tiger waiting for him below.² Even so, not many years ago a man-eater waited for his victim sitting in a tree within a few miles of Bombay, and killed and ate him when he tried to make his way to his home, thinking that the beast had gone. Other seals bear representations of elephants, both humped and other cattle, rhinoceroses, antelopes, buffaloes, and crocodiles, but on none are camels or horses represented, so these animals appear to have entered India subsequent to the immigration of the Tiger. Some of the seals are identical with others found in Sumer and Elam, proving communication between India and Babylonia, probably through Baluchistan or Gedrosia, the route by which Alexander the Great conducted his retirement from the Indus.

Perhaps the name of the Tiger and the river Tigris had a common origin in the archaic Persian word *tigra*, swift as an arrow or javelin, or, as Byron puts it, "swift as the hurled on high jerreed," to which the poet likens the spring of the startled steed at the

¹ *A Book of Man-eaters.*

² An interesting article by Mrs. D. Mackay in the *Indian Days Magazine*, November 1928.

touch of the Giaour's spur. It is interesting to note the frequent references to the animal in Buddhist books dating back 2,400 years ; while Gautama Buddha himself recounted how in "myriad rains ago" he remembered roaming "Himala's hanging woods, a Tiger with my striped and hungry kind." And then in a later life he acquired merit by giving his body as food for a starving Tigress in order to enable her to suckle her hungry cubs. But perhaps these are merely instances of poetic licence.

The geographical distribution of animals is greatly limited in modern times by conditions that did not prevail when there were no artificial limits or obstacles to wandering and migration. The extension of human occupation, involving not only the destruction of animal life but the clearing of forest regions ; the spread of agriculture, and the multiplication of towns, villages, and inhabited areas, among other factors have tended to cut off and isolate species in regions where they have been long established. Moreover, climatic conditions, which have brought about the creation and extension of deserts, have exercised a like influence. Thus when the Tiger extended his range southwards, eastwards, and westwards as far as the Caspian Sea and the Caucasus, the country on the eastern confines of Europe was probably so far settled and inhabited by man that the species was cut off from Europe, and that not only by impassable rivers and deserts such as the Volga and the Kirghiz steppes. Further migration westward was thus arrested.

We have seen in our time how the lion of northern Africa, where the animal once abounded in Algeria and Tunis and in the forests of the Atlas, has been exterminated. Cut off from the south by the vast desert of

Sahara, northern Africa is inaccessible to lions which might otherwise have come from the centre of the continent to replenish the breed. So in my own time I have seen in India districts which at one time held Tigers denuded of their presence, and isolated by areas of de-afforestation or cultivation, where the species has been killed off and where, if one does occasionally make its way, it is soon sought out and destroyed.

This isolation of wandering animals may well be illustrated from actual occurrences. A Tiger was discovered one morning, in a bedraggled condition and smeared with mud and slime, in a swampy field on the bank of the Colerun river some three miles below the fort of Trichinopoly. There were no jungles within many miles, and the animal was supposed to have wandered thirty miles or more from the mountains to the north of the place where he was found. He was mobbed and shot to death by a horde of matchlockmen. Tigers in their natural haunts will cover great distances ; I have tracked them for many miles on a forest road, along which they have prowled throughout the night. But they require a great extent of cover and secluded retreats where they can rest during the day in undisturbed seclusion.

In 1898 I myself hunted down and killed one that had entered the cantonment of Jalna, fifty or sixty miles from any forest inhabited by these animals, after it had travelled over many miles of cultivated country. But in days gone by there were Tigers in the neighbourhood, and a tomb in the cemetery recorded the death of an officer, killed only ten miles off, while only twenty or thirty years before they had been shot in a considerable jungle fourteen miles distant. Then two Tigers entered the famous Shwe Dagon pagoda in

Rangoon, to which they must have travelled from distant haunts. There were formerly numbers in the neighbourhood of Bombay, and many man-eaters were killed there within the memory of men still living; recently one was killed a few miles from the city. One was shot in a sugar-cane field near Lucknow, and another in the compound of a wayside rest-house where it had taken up a position in a bamboo clump; it killed the servant of an English traveller, who himself had a narrow escape.

The Punjab is now practically denuded of Tigers, which were abundant eighty years ago in the reed-beds of the Indus. The Emperor Babar, founder of the Mughal Empire, hunted them on the banks of the Kabul river near Peshawar. There are whole districts, formerly infested by these animals, where not one has been seen for a generation or more; nor are they likely to be seen again until the withdrawal of British rule once more exposes the country to the anarchy and devastation which formerly oppressed it, leading to the extermination of populations, the reduction of agriculture, and the letting in of the jungle.

We hear and read much of Tigers in India, but little of their doings in Northern Asia, in the Chinese Empire, in the Malay Peninsula, Annam, and the Malay Archipelago. They seem to have reached Singapore only within recent times, for in 1843 Dr. Oxley wrote in a paper on the zoology of that region: "Not many years ago the existence of a Tiger on the island was firmly disbelieved; and they must have been very scarce indeed, for even the natives did not know of their occurrence." In a few years they became a terror and a scourge, particularly to the Chinese coolies. How did they get there? Dr. Oxley said: "One may have

been carried accidentally by the tide across the narrow strait which separates the island from the mainland, and its cry in the pairing season may have induced another to follow ; and finding an abundance of food they have multiplied accordingly. This is a more rational mode of accounting for their being here than to suppose that they chased their prey over, as it is contrary to the nature of the beast to follow in pursuit after the first attempt has proved unsuccessful."

The Tiger is found in Sumatra and Java, and in the small island of Bali, its eastern limit in the Malay Archipelago, separated from Java by a narrow strait. According to Marsden, who wrote many years ago, the number of people slain annually by Tigers in Sumatra was almost incredible, whole villages being depopulated by the depredations of these animals. A writer in *The Field* in 1891 says that when he was on the north-west coast of Sumatra in 1885-6 the country swarmed with Tigers, which were more numerous about the tobacco plantations than in the jungle. But though fresh tracks were to be seen, a Tiger was seldom seen or killed. The Tigers, it was said, though attaining a great size, were not as dangerous as those of the Malay Peninsula. He only remembered three cases of man-eating, and a few cattle destroyed. They were fond of dogs, which they would carry off from the verandah in broad daylight within a few feet of the owner. The natives had not much dread of them, but feared more the black Sundanese leopard, which was scarce in the low country.

The presence of these animals about the tobacco plantations rather than in the jungle, and their dog-stealing habits, points more to the leopard than the Tiger, and it may be that there was a confusion between

the two animals, perhaps owing to a similarity of nomenclature, the natives, as in India, often applying the same name to both, a common source of error.

A. R. Wallace describes in his *Malay Archipelago* a Tiger having killed and eaten a boy close to Mojo-agong in Java two days before his arrival. The boy was riding on a bullock-cart and was coming home at dusk along the main road ; when not half a mile from the village the beast sprang upon him, carried him off into the jungle close by, and devoured him. Next morning his remains were discovered, consisting of only a few mangled bones. The people got together about 700 men and went in chase of the animal, which they found and killed. They only used spears in the pursuit, surrounding a tract of country and drawing together gradually until the animal was enclosed in a compact ring of armed men, when it was received on spears and stabbed to death. The skin was rendered worthless, the skull hacked to pieces to divide the teeth, which are worn as charms. In 1907, Colonel E. B. Burton, when in Java, heard that there were Tigers near Surabaya.

Little information is available regarding Tigers in Bali, an island 75 miles long by 50 wide, crossed by a mountain chain rising to a height of over 12,000 feet. Mr. R. I. Pocock, in the article previously referred to, mentions the skin of a small female in the South Kensington Museum, and cites descriptions by Schwartz in the *Annals and Magazine of Natural History*, 1912, and by Boden Kloss in the *Journal of the Federated Malay States*, 1921. Moor, quoted by Blyth in the *India Sporting Magazine*, 1856, wrote that "the hills of Bali abound with Tigers, particularly in

the western part of the island, which makes travelling most dangerous."

A. R. Wallace, writing when he was in Bali in 1856, makes no mention of them, but he landed on the north coast of the island and was there only two days. He describes the country as a slightly undulating plain extending from the sea-coast about ten or twelve miles inland, where it was bounded by a fine range of wooded and cultivated hills. He had "never beheld so beautiful and cultivated a district out of Europe," and added that the whole surface of the country is divided into irregular patches, every one bearing crops. This does not sound like a Tiger country, and the forests are not dense as in Java and Sumatra; but he was told that there were wild cattle still found in the mountains, which were no doubt the habitat of predaceous beasts. Mr. Oliver, President of the Netherlands Indian Hunters' Association, writes in *Game and Gun*, January 1933, that Tigers are very common in Bali, but man-eaters are rare, as deer and wild pig are abundant.

CHAPTER V

BREEDING, GESTATION, CUBS, HYBRIDS, CAPTIVITY

THE breeding habits of the Tiger are subject to seasonal and other variations. Sometimes the animals live in pairs for long periods, and the families may remain together for a considerable time, until the cubs are nearly half-grown; but generally the Tiger seems to be a solitary beast. I have myself shot a few pairs, including one old couple which the villagers declared they had known for a dozen years. But I have killed far more solitary animals. I recollect a pair, although living separately, meeting during the night in April, and keeping together for a time on the prowl. This was revealed by tracks.

The Tigress probably breeds once only in two or even three years, for the cubs remain with her until they are about two years old. Sometimes she is accompanied by cubs of different ages. The period of gestation is put by Inverarity at thirteen weeks; a study made in the Berlin Zoological Gardens by Dr. Heinroth fixed the period at $3\frac{1}{2}$ months for the Tiger and lion and three months for the leopard. The Tigress generally chooses a secluded spot for the birth of her young, which are born in a cave, or a rock shelter, or in dense cover at irregular seasons. I have known cubs born in December, and in March or April; Sanderson took cubs in March, May, and October; they must have been very young, or he

could not have taken them. The eyes are not ^{yet} gone open until the ninth day after birth.

Cubs may number as many as six in the foetus, and an instance is recorded of seven. In one litter of unborn cubs, four were females and two males; in another litter of six there were three of each sex; and out of five, three were males and two females. The Tigress is usually accompanied by only two, one of each sex, indicating that only that number survive; but there have been instances of five well-grown cubs being found with the mother, and Sanderson once took four cubs in a litter.

Numerous instances are recorded of Tigers killing and eating cubs, and more than one of their devouring the full-grown Tigress. The Hon. J. W. Best found two half-grown cubs dead, killed in the same spot by the male. They were both bitten about the throat and clawed about the armpits severely enough to have caused death apart from the throat-wounds. Both were partially eaten at the haunches, and one had been dragged 150 yards from its companion. The Tigress had probably left her cubs in the early evening, when she had killed a sambar, and the Tiger had apparently come across and slaughtered the cubs on the way to water. She had been roaring over her loss during the night.

In 1892, Colonel W. Scott shot a pair, and found the remains of a cub killed by the Tiger, the marks of whose fangs were in the throat; it had been killed that morning, for it was quite fresh and the whole of the right hind leg and quarter had been eaten. Near the dead cub were the remains of a large goat evidently killed by the cub. It appeared that while the latter was eating, the Tiger came and killed the cub, and got

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at. But while the Tiger sometimes kills and eats cubs, Colonel Fraser wrote in the *Oriental Sporting Magazine* that he will feed them in the absence of his mate.

In 1895 I was tracking a party consisting of a big Tiger, a Tigress, and a large three-quarter grown cub. In breaking open a dry dropping, it was seen to consist of Tiger's hair in which was imbedded a good-sized claw. The big one was going lame, one hind foot having apparently been broken, and making a plantigrade track like that of a bear. There had obviously been a fight, probably over a kill, between the old male and one of the cubs, which had been killed and eaten, the big one having his leg injured in the encounter. Unfortunately I was suddenly recalled from leave while still in pursuit of these Tigers, or would certainly have brought the party to bag within a few days.

The cubs if caught quite young become very tame, interesting, and amusing pets, but a careful watch has to be kept upon such animals, especially when children are about. The Tiger cub is more amenable than the young leopard. The cheetah or hunting leopard, on the contrary, even when the mature animal is captured, as is the custom for use in antelope hunting, becomes quite tame and harmless. One can sit with the animal on the cart conveying it on the chase; but then it is timid and inoffensive in the wild state.

The Tigress disturbed quietly will, sometimes at any rate, display no ferocity, but will remove her cubs to a distance, although she may growl at the intruder. As an example, a jungle man came to my camp one evening with news that he had seen a Tigress with small cubs lying in a hollow among the rocks some six or seven miles off. It was then too late to go after them,

and when we went next morning the animals had gone. That the man's story was true, which cannot always be said of such jungle tales, was evident from the numerous hairs on the spot where he had seen the cubs lying. The Tigress had taken them off in her mouth as a cat carries her kittens. The incident is marked in my memory especially by my having on the way transfixed a cobra that was slipping off among the rocks, when I seized a spear from one of my men and ran it through the body, whereupon the snake reared up with expanded hood, but was quickly beaten to death while pinned to the ground.

Williamson, in his *Oriental Field Sports*, relates that his men found in the jungle and brought him two cubs ; he shut them up in a stable, where they were very noisy. Two or three nights later the mother came to the place, and was so fierce and aggressive, roaring and trying to break in, that the men in charge of the cubs threw them out of the window ; she picked them up and carried them off.

When about two years old, the cubs are turned adrift to fend for themselves. The Tigress is said to train them in hunting by first disabling a deer or other animal, then teaching her young to stalk and kill her prey. I have observed a young buffalo scratched all over the chest and neck during the process of being killed by a pair of well-grown young Tigers which I shot with a right and left in the cover where they were lying, and these must have been quite three years old. Sanderson observed two cubs begin to hunt for themselves when seven months old. They had considerable difficulty at this age in killing even old cattle single-handed, and scratched them greatly in their attempts. He found marks of the mother having sat by while one

cub killed a bullock. He shot the female in July, when she was eight or nine months old ; she measured 6 feet 3 inches in length and weighed 118 lbs. ; the male, killed in November when a year old, measured 6 feet 11 inches, but was not weighed. A pair which I shot when still with the mother measured, the male 7 feet 8 inches, the tail being 2 feet 10 inches, and the female 7 feet 6 inches, with a tail of 2 feet 9 inches. The skulls of both measured 11 inches in length, and 7 inches across the zygomatic arches. Forsyth says that " young Tigers seem to rejoice in the exercise of their growing strength, springing up against trees, and scratching the bark as high as they can reach by way of gymnastics, and, if they get among a herd of cattle, striking down as many as they can get hold of."

Half-grown cubs are sometimes found in strange places, having probably lost their bearings. Near Muktesar in 1911 a Tiger entered a hut and attacked an old woman and a man. It had followed the goats into the house, and the occupants, after being badly mauled, scrambled out and shut the door on the beast. The man had an arm broken and many flesh wounds ; the woman was covered with wounds. Mr. H. A. Cross went to the place, found the door of the hut nearly closed, and a large fire lighted in front of it. He had a hole made in the roof, let his lantern down, and then made another hole low down in the wall, which was only four feet high. After looking for a long time, he saw the animal crouched close to the ground behind a basket, where he shot it. The villagers as usual said it was an enormous Tiger, and it looked very big, but was found to be a cub only 6 feet long.

While some points with regard to coloration, and to hybrids, have necessarily been considered in the first

chapter, in connection with the question of the ancestry of the great cats, some features of these subjects call for further consideration. It has been remarked that the lion and the Tiger are structurally very closely related ; so much so, in fact, that it takes an expert to distinguish between the skulls and the skeletons of the two species.

It is curious that although the two species have been known to interbreed and to produce fine hybrids, there is no authenticated instance of the Tiger and the panther or leopard interbreeding, although such a possible hybrid has been described in the first chapter and there have been lion-leopard hybrids, and a cross between a lion and a jaguar. Hybrid cubs were born to a male leopard and a lioness in the Kolhapur Gardens, displaying, as would be expected, more of the characters of the older type than of the lion.

There seems, however, to be no reason why a cross between the Tiger and the leopard should not occur, especially as they are both perhaps older types than the lion. In his book *Forty Years among the Wild Animals of India*, Mr. F. C. Hicks stated that he shot an undoubted hybrid between a Tiger and a panther. He described it as follows. " Its head and neck were purely those of a panther, but with a body, shoulders, and neck-ruff unmistakably of a Tiger, the black stripes being broad and long, though somewhat blurred and breaking off here and there into blurred rosettes, the stripes of the Tiger being most predominant on the body." The animal was an old male, measuring a little over 8 feet in length. It is unfortunate that so unique a specimen disappeared during the confusion and subsequent illness of Mr. Hicks, following on a severe mauling he sustained from a wild beast.

It is often said that Tigresses outnumber Tigers. This may be a general rule, but it is not my experience. The males may preponderate; of the first six I killed, all mature animals and all living singly, five were males, and of 34 more killed within the next three years there were 21 males, making 26 to 14 females. These figures are only conclusive as regards a particular series, and perhaps a very much longer series would be necessary to determine the question. It is recorded that in one district out of 16 Tigers shot in a few years, 10 were females. Perhaps the next 40 in the one case and the next 16 in the other would have equalised or altered the proportion of sexes. There seems no reason why females should preponderate; in the foetus the males are generally in excess, and the usual two surviving cubs are more often male and female. The fact that on occasion three or four males have been turned out of cover with one Tigress in season points rather to an excess of males.

They breed freely in captivity. In July 1932 five cubs were born in the Manchester Zoological Gardens, the largest recorded number born in confinement, but they did not long survive. The cage was secluded with canvas for some time for fear that the mother, if exposed, might kill her cubs. A Tigress, born in captivity in an Indian Zoological Gardens in June 1895, gave birth to four cubs in August 1905; the male Tiger killed one of the cubs.

In course of time cubs should be born at Whipsnade, where a pair have settled down together. They at first saw each other only through the bars of a cage, but, after some mutual intolerance in which the Tigress was the more aggressive, they became amicable and pairing took place. Tigers, like lions, have often

been tamed, and are more amenable than leopards. In former times they were to be seen in the palaces of Princes in India, and even in the streets of cities, while buffalo and Tiger fights used to be provided for the entertainment of guests. In such fights the buffalo was usually the victor. Colonel W. Campbell had two Tigers, taken in a box-trap near Dharwar, turned out in the courtyard of an old fort before a large bull buffalo. The Tigers lost all courage and made no attempt to defend themselves. They ran round the walls of the enclosure, trying to conceal themselves, the bull following and tossing them like footballs.

Tigers, like other animals, do not thrive and are generally short-lived in captivity, but it is to be hoped that they will have a longer life at Whipsnade, although the outlook in a chalk-pit is rather bleak. They have a reduced muscular development when caged, and look very different from the animals in their native wilds. There was a remarkably fine pair of Manchurian Tigers in the Regent's Park Gardens in 1904, which appeared to be in very fair condition.

In 1927 a Tiger and a Nigerian lion occupied the same cage; another Tiger from southern India, presented in 1925, had a fine ruff round his neck and was in good condition. "Bunty," a Tigress sent from Burma in 1914, was in rather poor condition and appeared to be weak in the hindquarters; but she was getting old, and died in 1928 at the age of eighteen years. Even in the wild state the age is supposed not to extend beyond about twenty years.

A remarkable operation, performed on a caged Tiger in the Government Gardens in Travancore, is recorded in the Bombay Natural History Society's Journal. Mr. Ferguson, Hon Secretary in charge of

the Gardens, noticed for some time that the claws of a fine male were growing into the flesh, and then one evening the Tiger tore out one of the claws by the roots. It was decided to cut the claws, and the beast was induced to enter a cage, for which a false top had been constructed with beams. When the animal was in the cage the top was lowered on to him, and held down with the aid of iron bars, thus reducing him to a helpless condition. A noose was fixed on the leg to be operated upon, and it was pulled through the opening and lashed to a horizontal bar. The claws were then cut out with a pair of rose-clippers; some had grown nearly an inch into the flesh, but the worst place was where he had pulled out the claw; there was an exposed bone and a three-inch sinus full of maggots. However, the wounds were dressed with antiseptics, and after some days of this treatment they all healed.

CHAPTER VI

CHARACTER AND HABITS

THE Tiger, generally represented as savage and bloodthirsty, and in fact as the embodiment of those qualities, possesses characteristics common to the whole species although some individuals have a character and habits peculiar to themselves. He is no more bloodthirsty than carnivorous man, except that he does his own killing while man usually has his killing done for him, amounting in Great Britain to 40,000 creatures slaughtered daily for food. The animal killed by the jaws of a wild beast probably suffers no more than one done to death with a pole-axe or even with a "humane killer"; the yells of a pig killed within my hearing sixty years ago have never been forgotten.

The Tiger is ravenous and ferocious in the attack on his prey, which he carries out with ruthless violence, and he is often savage when disturbed at his kill, as the dog may be when engaged with his dinner, although having the advantage of age-long contact with man. The Tigress will fiercely defend her young, but no one would blame her for the most savage exhibition of maternal love or instinct.

In his attitude towards man the Tiger in general displays a desire to avoid contact or close acquaintance, and even the man-eater shows timidity in hunting human beings. Such apparent timidity is not, however,

always due to the cause of fear usually assigned to it. It is the wild beast's stealthy and unobserved approach to any prey for purposes of surprise. When wounded he usually exhibits the utmost courage and ferocity in retaliation on his enemy in defending himself from death or further injury. So does the human being ; and it always seems to be a mistake to apply the term " cowardly," as is often done, to the animal that attempts to escape ; although, even when wounded, the wild beast, like man, may sometimes endeavour to get away rather than face an enemy.

Undoubtedly character may vary with the individual. Particular Tigers acquire a reputation for ferocity or timidity with the inhabitants of the neighbourhood over which they range, and to whom in course of time they may become well known. I killed an old pair within a mile of a village in the depths of the jungle where the people spoke of them with respect as familiar objects, and neither feared them nor objected to their presence. " Sahib ! " said the headman of the hamlet, " we have known these Tigers for more than a dozen years, and they have never harmed us. Certainly they have killed some of our cattle, and we have seen them close to the village, but they have not attacked or molested any of us." Unarmed villagers would even drive the beasts from their prey, and secure the hide and flesh for themselves. Five others which I shot in the near neighbourhood were quite unknown to the inhabitants.

Often the Tiger is so timid that a little herd-boy may drive it from his flocks, but there is always danger of retaliation. In one instance a young Maratha woman named Parvati was tending cattle, when suddenly a Tiger came up to attack them, having on previous

occasions been successful in carrying one of the animals off. The woman stood between the cattle and the beast, which then seized her by the left shoulder, breaking in pieces the bones of the upper arm. Having a bamboo staff in her right hand, the brave woman struck him over the head several times, and he let go and retreated into the jungle, leaving the cattle unharmed. She was taken to hospital, where the arm was removed at the socket. She recovered in two months, when she was given a reward of fifty rupees by the State of Sawantwadi, in which the incident occurred.¹

But many Tigers are dangerous to approach when on their kill, and will roar and rush at the intruder, though probably not charging home with intent to kill, but merely to terrify and prevent interference. Sometimes a Tiger, although not a man-eater, if it has suffered an old injury or wound, will become ill-tempered and may hold up travellers and bullock-carts, apparently connecting human beings with the injury; while a recently wounded one will kill anyone who approaches it. Thus a Bombay sportsman wounded a Tiger which then killed a herd-boy; he found the dead boy, and on the spot was suddenly attacked and himself killed by the animal.

It used to be said that the Tigers of the Pench River in Nagpur were fiercer than in other parts of the country, but this may certainly be doubted, and no grounds have been stated for the supposition. No doubt the natives would ascribe an unusual number of accidents to a peculiarly ferocious habit of the animals of the district. This is quite apart from the prevalence of man-eaters in particular districts, such as the Sundarbans of the Gangetic delta of Bengal, and

¹ Related in the Journal of the B.N.H. Society.

formerly the neighbourhood of Bombay. The temper of many Tigers may have been tried by frequent interference or molestation, such as being hunted by sportsmen and driven from one cover to another. Here, and in the case of animals wounded, arises the question of the powers of memory of animals, and of their ability to think or to connect cause and effect.

We know that the memory of some domesticated animals such as dogs and horses is very remarkable. Whether wild beasts possess similar faculties in a greater or lesser degree is more doubtful. But all who have hunted Tigers are aware that an animal that has often been beaten out or driven from cover is difficult to bring up to the guns posted in the usual manner. Yet, unless it has been wounded, it can scarcely be supposed that the animal reasons that it is being pursued for its life. Probably it merely fears the unknown and unusual. A Tiger will kill a beast out of a herd near which it is passing when being pursued, just as a hunted fox will snatch a fowl from the farmyard. Yet we constantly read instances described as "boldness" of Tigers or leopards returning to their prey soon after being fired at and missed, perhaps two or three times during a few hours, for human beings are prone to ascribe human ideas to animals. It is not probable that an animal, unless hit, connects the report of the rifle with an attempt on its life, or an attempted injury of any kind; nor can it be aware that a projectile has been propelled to its address, even though it may hear the whizz of the bullet. It has merely been subjected to an unwonted noise, which alarms it and is connected with human agency if a human being is in sight.

This is no doubt instinctive dread of the unknown and unfamiliar, but it is difficult to say where instinct

ends and reason begins. Professor G. J. Romanes¹ defined as instinctive—"actions which, owing to their frequent repetition, become so habitual in the course of generations that all individuals of the same species automatically perform the same actions under the stimulus supplied by the same appropriate circumstances." But rational actions are those required to meet unusual circumstances, and hence require intentional effort of adaptation.

Instinct, we are told, is reflex or non-mental action into which there is imported the element of consciousness. While reason or intelligence is the faculty concerned in the intentional adaptation of means to ends. In fact, it implies some consciousness of cause and effect, themselves the two sides of one fact.

The habits of the Tiger in tropical and sub-tropical regions are nocturnal, apparently partly but not wholly owing to climatic reasons, but also to the value of darkness for concealment while hunting their prey. But in India in the cold weather, though rarely in the hot season, the Tiger may seize its prey by day, and may sometimes, though rarely, be seen on the move at all hours. It would be interesting to know whether this habit is confined to tropical and sub-tropical regions and whether the Tiger of Northern Asia is active by day as well as by night. Eyes would not be adapted to seeing in the dark except for such purposes of vision.

While the Tiger displays great impatience of heat, retiring by day to shady cover, generally near water, and panting heavily with lolling and dripping tongue when driven from cover, it follows that it is also impatient of thirst. It has often been said that Tigers

¹ *Animal Intelligence*. 1882.

and peacocks live together in the same thickets, but this is because they both suffer from thirst, while the neighbourhood of water is naturally cooler and harbours cool and shady retreats. They sometimes inhabit caves, not only the recesses of rocky and basaltic heights such as those forming a conspicuous feature of the country between the Krishna and Godavery Rivers, but genuine caverns in the sides of hills, which form suitable retreats for the accouchement or for the habitation of Tigresses with their young cubs.

Tigers are addicted to lying in water, and more than once I have seen them driven forth dripping with water after emerging from the bath in which they have been lying immersed. Some are more than others fond of this habit, but generally it may be said that where most of the cat tribe are averse from entering water, all Tigers have no hesitation in plunging into stream or sea, and all swim well.

Tigers were at one time very numerous on the scene of the battle of Plassey, Kasimbazar Island, where, Williamson wrote in his *Oriental Field Sports* early in the last century : "Tigers not only resort freely to the water when pursued, swimming in a manner that denotes their familiarity with that element, but may frequently be seen crossing large rivers, when no object appears to be in view. About Daudpore, Plassey, Augahdeep and especially along the borders of Jellinghee, they are known to cross and recross during the day as well as by night ; seeming to consider the stream as no impediment. From Augahdeep, in particular, they pass over to the extensive jungle of Patally, which has ever been famous for the number it contained. I have, in passing through it, seen four several Tigers within the space of two hours ; and a

gentleman who was travelling in his palankeen in the year 1782 saw three lying in different parts of the road as he went on. Paul once made an excursion thither with a number of elephants under his charge, and in about a week killed twenty-three Royal Tigers besides several leopards. . . . Tigers swim very high, and on being wounded rear and plunge desperately."

Paul was a famous German hunter of those days, of whom Williamson gives an account. He was employed for many years as superintendent of the elephants at Daudpore, generally from fifty to a hundred in number, and appears to have been mainly instrumental in destroying the very numerous Tigers which infested the Kasimbazar Island before the country was brought under cultivation. Williamson wrote : " A few patches of cover yet remain there, but cannot fail to be speedily annihilated, when perhaps a tiger may be as great a rarity as it was formerly an incessant object of terror." Personally I have not seen a Tiger swimming, but have seen them splash through the shallow water of a flowing river.

It is only to be expected that in the Sundarbans they should take to water, for the swampy delta is split up into numerous islands, and is everywhere traversed by many water channels. That region has always been a notorious abode of man-eaters, which become exceedingly bold and have been known to swim at night to a boat anchored in the stream, and carry away a man.

Mr. W. A. Hickie, who shot during several years in the Sundarbans, contributed interesting particulars regarding wild animals and water to the Journal of the Bombay Natural History Society. He found that Tigers take readily to water, and in some instances swim considerable distances up to three or four miles,

even in tidal rivers with a four or five knot tide running during spring. He was struck by the intelligence shown by them in choosing their time for swimming, which was invariably at or about high water, when they are able to take off and land on hard ground. At all other states of the tides one has to flounder up several yards of bank through deep mud.

A curious feature of the forests is the entire absence of fresh water except in cultivated tracts, there being nothing but salt water to drink daily during the dry season from November to May. Fresh water is obtainable in the islands in certain suitable localities, but one has to dig for it four or five feet deep, the only way of obtaining it during a prolonged stay in or around the uninhabited islands on the sea front. These fresh water holes are soon discovered by the animals, which go mad after the water and flock to it to quench their thirst.

Tigers must often have taken to water to reach Singapore and the islands which cluster in the intervening channel. Whether they had to swim in order to get to Sumatra and Java is another question, for they may have crossed over the Strait of Malacca when these islands were joined to the mainland. One has been known to swim a distance of five miles from the mainland to the island of Penang. Captain M. H. Hunter mentions, in the Journal of the Bombay Natural History Society, a Tiger killing two and wounding three out of a herd of cattle, the latter being clawed about the withers and neck. The Tiger dragged off a kill and dropped it from a bank seven feet high into a deep river; he then entered the river, not diving in but going to a convenient spot, swam out and pulled the carcass across to the other side of the stream.



Photo: R. S. Burton, Royal Artillery

SLOTH BEARS

So great and heavy-bodied an animal is not, like the leopard, ever arboreal in its habits, in this resembling the lion, although both the larger species have occasionally been known to climb into trees. The climbers have generally been young animals, and they have usually got into trees in circumstances of stress. We all know how the domestic cat will run up a tree when pursued by dogs; leopards hunted by wild dogs take to trees in the same manner, and both the clouded leopard and the jaguar are mainly arboreal in their habits. In South America the jaguar is driven and hunted up a tree with a pack of dogs, and there shot.

Lions have been found in trees, and it has been suggested that they have climbed with the aid of their claws because of the marks of claws observed on tree-trunks. But that depends on the height of the marks, for all feline animals, like the domestic cat, are in the habit of cleaning and scaling their claws in this manner. And though the claws may help the lion or Tiger in climbing, they more probably spring on to the branches, their weight precluding their clinging on with their claws.

A number of instances is recorded of Tigers climbing trees. In some cases they have pulled down a man from a position of supposed safety, for it is generally considered that there is safety at a height of twelve or fourteen feet from the ground. But a wounded one took a Bhil boy out of a tree from a height of twenty feet, springing up and making use of its claws. It grabbed the boy by the ankle, and the combined weight of the two broke the branch on which the boy was sitting and brought them to the ground; the boy's leg had to be amputated, but he recovered. In another instance, during a beat for a Tigress, a native "stop"

in a tree called out : " here she comes," thinking himself quite safe. But she heard him, went up the tree, pulled him down, and bit him so severely that he died in hospital soon afterwards.

Usually the Tiger in a tree has been a young or a wounded animal, or often a female, probably not weighing over 250 pounds ; it is scarcely possible that an old or heavy beast weighing perhaps double as much as the Tigress, could accomplish such a feat. A sportsman who was on elephant-back beating the jungle started three Tigers ; suddenly the mahout called out : " Look, look, sahib ! there are three Tigers going up a tree ! " The sportsman kept looking at the foot of the tree and surrounding jungle, never thinking of looking higher up, and before he saw them they were down again. He observed the marks of their claws as high as twenty feet from the ground, and following them up, shot two, a Tigress and a three-quarter-grown cub.

In the *Bengal Sporting Magazine* for 1834 it is recorded that a Tiger, struck on the back of the head by a bullet on the previous evening, was found dead on the lower branch of a pipal tree at least fifteen feet from the ground. The marks of his claws on the bark were so clear that there was no difficulty in seeing that he had scrambled up cat-fashion. He had then run along the branch, at the extremity of which he lay down across it, his legs on either side being kept in balance by small branches, and there he died. The animal was not full-grown.

In an instance recorded in the *India Sporting Review* for 1856, a sportsman shooting on the Mahanadi River heard that a Tiger was sitting in a tree, blockaded by villagers. He rode out fourteen miles to the spot, and

five hundred yards from the village saw a large pipal tree round which men were picketed. A spearman was standing almost underneath the tree. When he approached within a hundred yards, "there appeared, standing on a sturdy branch high aloft in the tree, the Tiger, erect and calm and fearless, with black, yellow, and white colours in stripes, looking beautiful in high relief." The height of the animal above the ground was found to be twenty-five feet when afterwards measured. The Tiger, on receiving a shot, caught a lower branch with his two arms when falling, hung for a minute, and then dropped dead. The villagers had found the animal in the morning asleep under a mango tree. On being roused he first tried to hide himself in the drain of a tank, and eventually mounted the tree, which from its size and low stout branches was easy of ascent. They said that once during the day he tried to descend, but was driven higher up by their shouts. This was a young animal about eight feet in length, so he would probably have weighed not more than 250 pounds.

In a very similar case a Tiger attacked a buffalo near a village at about daybreak, but was driven off by the herd-boy. The villagers then turned out, and the beast got into a pipal tree where a dozen men remained to prevent it from getting down. The sportsman, mounted on an elephant, approached to within forty yards, and related that as he stood up in the howdah with his rifle levelled at the Tiger's chest it appeared to be a few feet higher than the rifle, and he calculated it to be about nineteen feet. The animal, which was killed with three shots, was a male nine feet eleven inches in length. "How he got up the tree, I could not well make out, as, with the exception of an

intervening branch, and many large notches, the trunk, measuring in circumference at least thirty-eight feet, was fourteen feet high, and then branched out like a banyan tree, and there was plenty of room where he could stand and lie."

Another Tigress sprang over eleven feet up a tree in which a man was sitting, and began tearing off the bark with her teeth. But the most remarkable instance of tree-climbing was that of a Tigress hunted by two sportsmen with dogs in one of the woods called sholahs, characteristic of the Nilgiri Hills near Ootacamund. She was fired at when pursued by yapping curs, and soon afterwards a shikari called out: "she has gone up a tree," and suddenly she appeared on the top branches of one of the tallest trees. A couple of shots brought her down with a crash, apparently lifeless, but soon she was heard growling and snarling at the dogs surrounding her. Then the sportsman who had shot her saw her get up and move off, but in the dense cover could not see where she had gone. However, she soon reappeared "shinning up the same tree, just as a house-cat would." She got to the branches, and stood in a fork, looking down and exposing her great chest; she was again shot, and fell to the ground, where a bullet in the brain finished her as she lay pawing at the dogs.

It is generally supposed that the Tiger has no dangerous enemy but man, and no friend but those of his own species, as one would expect of a monstrous and savage beast possessing an armature unequalled except by that of the lion. But the incident of the Ootacamund Tigress climbing a tree to escape the yapping dogs, and the behaviour of lions when hunted in Africa with dogs, as Gordon Cumming hunted them

with comparative safety to himself, and the fact that leopards have been seen treed by wild dogs, tend to confirm the possibility of the truth of the native stories prevalent all over India of Tigers being attacked and even killed by these animals.

The oldest book on Indian sport, Williamson's *Oriental Field Sports*, has an imaginary picture of wild dogs attacking a Tiger. The dogs as depicted are also imaginary, not bearing any resemblance to those animals. There is no record of one having been seen by a European attacked by wild dogs, and native stories of wild beasts have always to be received with caution, but it is easy to believe that they may be driven from their prey by these animals, and possibly even killed ; for they have often been brought to bay by packs of curs, especially in the south of India. I have myself seen a Tiger put to flight and chased by a bull-terrier, which eventually brought the beast to bay but was mortally wounded in the encounter.

The Indian wild dog is of a fox-red colour, lighter underneath, the bushy tail also red with a black tip, but the black tip is sometimes absent. Although something like a jackal, there is no mistaking the red dog for that animal ; it is longer, stands higher and has a more dog-like muzzle. Its length is about fifty and its height about twenty inches, the tail being some eighteen inches long. It hunts generally in packs from half a dozen to twenty in number, but I have seen and shot solitary dogs.

The pack hunts in silence or sometimes with a whimpering whine, running down their game and killing deer and antelope by snapping at the flanks and so disembowelling them, but has been known to seize by the head and throat. They hunt by day or night.

They undoubtedly drive leopards from the kill as I know from personal experience, having seen them at a buffalo that had been killed by a leopard, which my men saw going away over the hills pursued by the pack, and leopards have been found treed by them, just as a domestic cat is treed by a dog. It is said that they will kill or drive all the game out of the jungle, and so force the Tiger to leave his usual haunts and seek a fresh abode in search of prey. But I have found a pack of dogs inhabiting the same jungles as Tigers and leopards, and in forests abounding with deer and other animals.

The natives in many parts of India aver that the wild dog blinds its victims by shedding poison on to its tail, which it then flicks into their eyes. This is no doubt absurd, but I shot a dog which, when wounded and followed, shed a strong pungent ammoniac secretion on to its tail, the scent of which was so strong as to be discernible from some distance. If this is a common habit under the stimulus of excitement, it may have given rise to the native belief.

Wild dogs have never been known to attack human beings, but a pack will sometimes display indifference to the presence of man, and trot, stand, or sit about, looking at a man approaching to within twenty or thirty yards before they make off. A sportsman related that a bitch ran at him and displayed a very aggressive demeanour, but this was accounted for by her having six cubs which he afterwards dug out of a hole.

A native belief, prevalent throughout India, is that a pack of wild dogs will not hesitate to attack a Tiger, and that the latter generally gets the worst of the encounter. The villagers about the Katkamsandi Pass

on the old Calcutta-Benares Road, which was formerly infested by wild beasts, many years ago related a story of having witnessed a fight between a Tiger and wild dogs, in which the dogs were victorious although they suffered heavy loss. Baldwin, in his book on the large game of Bengal, relates a similar tale. In this instance the inhabitants of a small village in the wilds one moonlight night heard what they thought was two Tigers fighting. In the morning they came by chance upon the scattered bones of a Tiger recently killed, including one hind leg with a large piece of flesh adhering to it, and on the spot found three dead wild dogs; but these were not eaten because wild dog does not eat wild dog. A careful enquiry appeared to prove that the story was authentic. At Bitergaon in Berar, in May 1895, I was told that a Tiger had lately been attacked and its stomach torn out by wild dogs. It was said that a native official tried to have the beast driven out of the cover in which it was lying, but it charged and killed one of the beaters, and made off and was not seen again.

In an article in the *Pioneer* newspaper in 1895, a sportsman related that an aboriginal Chenchu woman, while picking mohwa blossoms, saw a pack of wild dogs in pursuit of a Tiger. The Chenchus, on receipt of the news, at once set out to bring in the Tiger, assured that it would be killed; they tracked the chase into dense jungle where it had escaped. When it was suggested that it had beaten the dogs off, the Chenchus said that in that case some dead dogs would be found. The winter afterwards the same sportsman was afforded what he calls "pretty practical proof" that the dogs do attack and kill Tigers. He wounded a Tiger, and a fortnight afterwards heard that it had

been found dead fifteen miles off. He went to the spot and got the skin, skull, and claws from the people, who said that it had been killed by wild dogs, apparently in order to prove their claim to it ; his reply was that if such were the case, the wound enabled them to kill it. It may be remarked that the wound he inflicted on the Tiger must have been slight, or it would probably not have travelled so great a distance.

Next week another was found dead, and a third some days later, both of which the Chenchus declared had been killed by wild dogs ; and as no one else was shooting in the forest, and he himself had fired at only one Tiger, he was convinced that the story was true. The skulls and claws were brought to him, but the bodies were so decomposed that it was not possible to see if they bore the marks of bullets. The Chenchus apparently possessed no arms except perhaps bows and arrows, as I observed on a visit to the same hills. It is not likely, though not impossible that they would attempt to kill Tigers with bows and arrows ; in other parts of India they have been killed with these weapons, and one has been shot with an arrow head imbedded in its back ; the skin over it had healed and the only outward evidence of the wound it had made was in a patch of lighter-coloured fur. Poisoned arrows might be used ; Captain Forsyth related that two natives killed a man-eater with bow and arrow ; Tigers have been killed with axes and spears, though it is doubtful whether the timid Chenchu would be equal to this.

A favourite illustration in some old books is that of a Tiger seized in the jaws of a crocodile, half immersed in a river or lake, into which it is trying to drag its enemy ; or of a struggle between the two. Whether such encounters are authentic or not, it is difficult to

say, but it is conceivable that a Tiger might be driven by hunger to attack a crocodile, or to seize a young one as readily as it will a large lizard or a pangolin ; and it is not impossible that one when drinking might be seized with iron and relentless grip by the reptile, as cattle are attacked when they are drinking ; the crocodile never lets go of its prey.

Among the enemies of the Tiger must be included not only the wild but especially the domesticated buffalo. A herd would probably not attack the Tiger unless provoked by its seizing a calf or other member, or, as has sometimes occurred, in protecting the herdsman. In such cases they may charge the enemy and gore or trample it to death. But a Tiger has been known to charge along the backs of a whole herd and kill the two men driving them. It will not often attack a full-grown buffalo, wild or domesticated, but instances have been recorded. In Cooch Behar a magnificent bull was seen moving leisurely along a river-bed on the border of Bhutan with a Tiger escorting it on either side. Every now and then one of them would rush in and try to get a hold, and the buffalo would merely sweep his horns. This went on for half a mile, when one of the Tigers got too close and the buffalo ripped it right up with his horns. It died at once, and the other bolted while the buffalo went on.

The Raja of Gauripur in Assam wounded a Tiger which got mixed up with a herd of tame buffaloes ; when they had done tossing it about on their horns, there was little of it left. Nor is it likely that the full-grown gaur or Indian bison is often killed by a Tiger, though it is not perhaps as formidable an enemy as the buffalo. But I have found evidence of such a tragedy

in the remains of a cow bison, where tracks showed that the herd to which it belonged had stampeded. A Gond shikari gave me a graphic description of a Tiger attacking a bull bison, which kept it off with its horns, while in another jungle I saw the head of a fine bull, killed after a prolonged struggle; the Tiger, when shot soon afterwards, was found to have an eye gouged out and other injuries. It is probable that the attack on one of the great oxen is made from behind, and the buffalo or bison disabled by ham-stringing.

The wild hog is a favourite prey of the Tiger, and a boar will no doubt sometimes put up a good fight, though a fine pair of tusks and a skull picked up from a kill prove that sometimes at any rate a very big boar is killed and eaten. Probably the boar would have little chance when taken by surprise and seized by the back of the neck. Encounters between the two animals have been described. In one instance in the Himalayas the snow was found to be trampled down over a considerable space, and covered with blood and hair, but the pig had effected his escape, having gone off one way and the Tiger the other, while drops of blood on the tracks of the Tiger showed that he had been marked by the boar's tusks. Walter Elliot found a full-grown Tiger newly killed, evidently by the rip of a boar's tusk, and in another instance villagers brought in a large one and a boar which had killed one another. The Tiger had jumped on the boar's back and seized it by the nape of the neck, but was killed by a gash in the stomach. Boars have been found to have the handwriting of the Tiger on their backs.

The Indian sloth bear does not escape the hunger of the Tiger, but can scarcely be numbered among his aggressive enemies, although a bear was seen to attack

and begin biting a dead Tiger which had just been shot. Bears no doubt not infrequently fall victims, and I recollect the inhabitants of a village in the Melghat forest bringing to camp the skin of a large bear which they said they had killed after it had been badly mauled by a Tiger with which it had had a prolonged struggle. The skin bore tooth and claw marks, and there was no reason to doubt the truth of their story; but the bear could probably not put up much of a fight against so formidable and agile an antagonist. I have found remains of bears eaten by Tigers, and have also beaten both animals out of the same cover.

A bear was seen by Sir S. Eardley-Wilmot to gallop through a jungle and stop on reaching a road. A Tiger appeared on the road fifty yards off, and began stalking the bear, stopping when the bear stopped, and sinking on its belly when the bear moved on. This went on until only ten feet separated the two animals. Meanwhile two other Tigers came out and lay down to watch. The bear left the road and entered a patch of grass, the Tiger followed, but turned away when the bear rushed roaring at him. In another beat a wounded Tiger rushed at a bear with a cub on her back; the bear made off yelling, and another bear, where a Tiger was in the beat, howling dismally, fled to the hills.

Captain M. H. Hunter related that in a beat he shot a Tiger which charged in his direction from fright after suddenly running against a bear. I have seen one similarly turned when alarmed by a four-horned antelope crossing his path. The Tiger was wounded in the chest, and afterwards walked out of cover close to me, when I shot him through the heart.

There is an animal commonly supposed to be a

friend of the Tiger, and for whom indeed the great beast provides many a meal. This is the jackal, at one time supposed to be specially attached to the Tiger, and even thought by some to be not a jackal but an animal of some other species. Known in some parts of India, particularly in the west, as the "Kol-Bhalu," and elsewhere as the "Pheall" from the peculiar cry it utters in certain circumstances, the first mention of this animal is contained in a passage in Johnson's *Indian Field Sports* (1824). Johnson wrote that at midnight, when he was in a machan or tree-ambush, watching for an expected Tiger, he "heard at a distance a Pheall, which is a jackal, following the scent of the Tiger and making a noise very different from their usual cry, which I imagine they do for the purpose of warning their species of danger . . . soon after the Tiger passed within a few yards of us ; and, although we heard him distinctly purring as he went along, like a cat that is pleased, we could not see him in consequence of his keeping in the shade of the bushes. In a minute or two after he had passed, we plainly saw the jackal, and heard him cry when very near us. . . . I have often heard it said that the Pheall, or 'provider' as it is commonly called, always goes before the Tiger ; but in this instance he followed him, which I have also seen him do at other times. Evidently his cry is different from what it is at other times, which indicates danger being near ; particularly as, whenever the cry is heard, the voice of no other jackal is heard, though at other times of the night they are calling in all directions : nor is that particular call ever heard in any part of the country where there are no large wild beasts of prey. Pheall, I believe, was the original and is now the proper name ; but they are better known in

Ramghur by the name of *Phinkar*, which in my opinion is more appropriate, as it explains what it is—‘crier,’ ‘proclaimer,’ or ‘warner.’ The former word was used from its resembling the cry they make, as in so many instances of the names of animals in this country”; and, he might have added, of animals in all countries and languages.

This is a very fair account of the pheall, but Johnson is mistaken in saying the cry is uttered only where there are large wild beasts of prey. Those who have spent much time in camps and observed the sights and sounds of the jungle must have heard not infrequently this peculiar call made by jackals not only near a Tiger or leopard, but evoked on other occasions, as when the jackal is pursued by dogs; while Sir S. Eardley-Wilmot observed two jackals gazing up into a tree, in which there was a large python, and uttering this cry.

Popular notions have a tendency to be repeated and to persist. Rice, in his *Tiger-shooting in India*, wrote that “the Kol-Bhalu is an aged, mangy, worn-out jackal, that has either left or been expelled from his pack; he devotes himself to the service of some Tiger. It is his business to discover or give warning of the whereabouts of any stray cattle he may find that will afford his royal master a meal.” This is no doubt based on some popular village tale or belief.

There are probably always jackals not far from a Tiger’s kill, as they are to be found near any such remains, and it is in the vicinity of its kill that the Tiger is generally observed, especially at night when both animals are on the move; it can easily be understood that this may lead to a connection being established between the two in the popular mind, as there is a

connection between the peculiar cry and the presence of animals. The gathered yell of jackals is at all times piercing and like no other sound, as is the howl of a dog that lifts up its voice on hearing a bugle-call or other music. The pheall cry is still more unearthly.

There is nothing peculiar in the presence of jackals in the neighbourhood of beasts of prey. Darwin notes that on the Parana the Gauchos say that "the jaguar, when wandering about at night, is much tormented by the foxes yelping as they follow him"; perhaps for the same reason that small birds assemble round and torment owls, hawks, and other birds of prey, as well as the cuckoo.

But it is not only in forests inhabited by great beasts that the jackal, approaching as near as twenty or thirty yards from the Tiger, will utter this peculiar cry. It may be heard in open and cultivated tracts where there are no great wild beasts. A jackal, pursued into a hole among rocks by dogs, has been known to set up this yell within its place of refuge. It may be a warning note of danger, or a call for assistance, or possibly at times a mating cry in the breeding season, and it is applicable not to a particular animal but to particular circumstances. Wounded jackals may utter it, and animals that were thus yelling have been shot and found to be neither mangy nor decrepit. Sir S. Eardley-Wilmot found a jackal he shot when uttering this cry to be a slut in season.

A writer in the *India Sporting Review* relates that he was riding in an open plain when he came upon five jackals; they struck up the pheall cry, and there was nothing else in view within half a mile except two other jackals, which shortly joined in the cry; he concluded that it was uttered in fear at seeing a strange object.

At the same time he does not say whether there was any cover in the vicinity, which might have concealed an animal invisible to him, but sensed by the jackals, whether by sight or scent. This instance is especially interesting, in that a number of jackals set up the cry, generally supposed to be uttered only by a solitary animal.

The habit of the Tiger uttering a call resembling that of the sambar deer has often been referred to. The call has been mistaken for that of a sambar, and has even been said to be the ruse of the Tiger for the purpose of calling up his prospective prey, just as a man invents means to call up deer and birds. A Tigress has been seen and heard making this call so much like that of a deer as to deceive an experienced sportsman. But heard "together" the difference is discernible, and it has been said that Tiger and sambar may be heard answering one another; the sambar call has been described as "higher in pitch, more musical, shorter, and finishing clear"; that of the Tiger "lower, more 'chesty,' and not clear-cut." The call is perhaps a mate call; Mr. Dunbar Brander says that "though like a sambar bell, no sambar would mistake it."

This call is commonly known as "titting," from the Burmese term. Mr. W. S. Thom, an experienced sportsman and naturalist in Burma, says it is not necessarily either a hunting or a mating call, but always a note of alarm or apprehension uttered when the animal is suddenly disturbed or alarmed. On one occasion when a Tiger was anxious to approach a kill, but was kept off by passing villagers, it kept on "titting." He adds that even jungle people cannot always distinguish between the call of a Tiger and a

sambar. It would be interesting to know whether this call is common to both sexes.

Major A. W. H. James, watching for game in the Billigirangan Hills, heard what he thought was a sambar calling. Watching through his glasses, he saw a Tiger, saw it lower its head and its ribs contract as it made the call, and then at length recognised the high-pitched cough of that animal. It does not seem probable that the call is deliberately made to attract the deer. We know little or nothing of what passes in the minds of animals, but are prone to ascribe human modes of thought to account for their actions.

CHAPTER VII

HOW TIGERS HUNT : SCENT AND SIGHT

IT has already been said that the Tiger is mainly nocturnal, seldom hunting by day, at any rate in tropical and sub-tropical regions, although it may be more active in daylight in colder weather than during the hot season. But often it rises from its slumbers long before the sun has set, perhaps first drinking at stream or pool, for it seldom lies up far from water. It is, perhaps, not surprising that Tigers appear to be especially fond of deserted cities, and old abandoned forts where the jungle has been let in such as are to be found in many parts of India. For in such places, particularly in hill-forts of the Deccan such as Gawilgarh and Manikgarh, they find abundant shade and plentiful perennial water in springs or tanks, which is also resorted to by the beasts on which they prey. Bishop Heber related that a Tiger hunt took place in the court of the old palace at Dacca, when one of the elephants fell into a well overgrown with weeds and bushes.

There is an additional reason for the Tiger to hunt by night. He is then not subject to the attentions of the crows and other birds which would accompany his progress and betray his presence by day, while deer that bark at his approach to give alarm and warning to their kind, and monkeys that chatter and bounce about in the branches above his head are not active as in

daytime. But even at night his movements are often heralded by the bark of spotted deer or of kakar, and his track when prowling may be revealed by the peafowl calling in the forest as he passes.

He generally settles down to a particular tract of country, although there is more wandering during the rainy season and cold weather than in the heat of summer, when few movements from one area or beat take place. It is often said that if one Tiger is killed, another will take its place immediately. It is natural that a tract possessing everything essential—extensive cover, food in the shape of wild animals and domesticated cattle, and water—should be the haunt of Tigers. But if a Tiger is killed in the hot weather, the usual time for hunting the beast, it is not probable that its beat, however favourable, will at once be filled. That will not usually result until the rainy season induces animals to wander far afield in cooler weather and denser cover. This has been my experience after clearing a district of Tigers, and finding it destitute of those animals on my return by the same route a month or more afterwards, but the empty haunts are filled again with fresh ones in the succeeding hot weather a year later.

If the Tiger is lying up beside his prey and there is still some of the carcass left, even though it be only putrid remains, he will resume the feast; or where subject to disturbance or wanting a fresh kill, he may start on his rounds at or before dusk. In one instance a Tiger returned to remains consisting of a bundle of bones tied together, and was shot by Mr. Shortridge. He lies up close to his kill, not only to be near his food, but to keep off hyenas, jackals, vultures, and other scavengers. But if he has become timid

from frequent disturbance by man, he may lie up at a distance, perhaps concealing the carcass from scavengers by covering it with leaves, or by hiding it in a thicket where the vultures cannot see it, for vultures hunt by sight.

The Tiger travels great distances by night in search of prey. He may be tracked along a forest road for many miles. Perhaps he takes a dust-bath on the way. He prefers a path or a road to walking through the jungles where bushes and grass, often wet with the dews of night, cause discomfort by brushing against his sides. He will probably visit a number of water-holes or pools, or the banks of streams in search of prey ; he is likely to stop at times and listen or look for anything moving in the gloom or the moonlight, or he may lie down for a time during his wandering, and watch for deer or hog or nilgai of nocturnal habits. And many lesser animals on which he preys have nocturnal ways, such as the porcupine which comes grunting along with rattling quills.

The most important question is whether the Tiger hunts or detects the vicinity of prey by scent, or by sight, or hearing. Probably all three senses come into play, otherwise there would be no reason—and Nature is reasonable—why it should be gifted with all three faculties, although there are faculties that tend to become wholly or partly atrophied by disuse. Man himself in earlier times may have made use of all these faculties in hunting or in seeking food, whether animal or vegetable. But his sense of smell has deteriorated, although I myself have smelt the strong scent of both Tiger and leopard at very close quarters before seeing or hearing the animal. Mr. R. C. Morris, an experienced hunter, observed that while he has often

strongly smelt bison and deer, his trackers have winded nothing. But an observer in Africa found natives to possess a remarkable ability in finding game by the power of scent. Man still uses the sense of smell to test the quality of his food, and to enjoy pleasant perfumes such as the aroma of good wine.

I raised this question in a contribution to *The Times* of 22nd June, 1928, which gave rise to an interesting correspondence in that paper and in other publications, pointing out that, while F. C. Selous wrote that "nothing is more certain than that all carnivorous animals hunt almost entirely by scent," he was writing with regard to African fauna. It is a subject generally and signally ignored in books on sport and natural history, as indeed might be expected of some authors of popular natural history, who have a tendency to follow one another even in perpetuating errors of fact and views.

My own observations led me to the conclusion that Tigers hunt mainly by sight and sound, and that their powers of scent are very limited, although those powers cannot be entirely ignored. When hunting these animals it is not necessary to take precautions relating to the direction of the wind, and the hunter may be in close proximity to Tigers without their detecting his presence until they are disturbed by sight or sound. Or, if they do scent human proximity, they generally take no notice of it, as they do immediately on sighting it. I have taken off my boots and stalked within fifteen yards of a Tigress in the open who displayed no knowledge of my presence until disturbed by a bullet.

I have, moreover, hunted in companionship with Bhils, Gonds, Banjaras,¹ and other natives familiar with the habits and pursuit of wild beasts, and they

¹ Generally anglicised as *Brinjaras*.

have never on any occasion suggested that wind must be considered with regard to the Tiger or, it may be added, the leopard, although Selous wrote that the latter animal in Africa hunts by night and by scent. His view was that the lion seeks his prey by scent, either smelling the animals directly or following their tracks.

I have walked right on to a slightly wounded Tiger, when the ground favoured a silent and unseen approach, until on my coming unexpectedly into view of the animal at a distance of a few feet, he raised his head and recognition blazed into his glowing eyes. Often Tigers have been driven out, and with slow and leisured tread have passed close to me without betraying any sign of scenting my presence, though immediately alert to sound and quick to perceive movement.

It is because the Tiger hunts chiefly by sight and hearing rather than by scent that the hunter always pickets the young buffaloes that serve as bait in open spaces, and not in cover or dense jungle where they would escape observation, although an additional reason is found in the Tiger's habit of keeping to pathways rather than moving through cover. I have on frequent occasions known a Tiger pass within 30 yards or less of a picketed buffalo, and fail to observe it by either scent or sight, the buffalo presumably lying asleep and motionless and so undetected by the two chief senses. Had the wind been blowing from Tiger to buffalo, the latter would surely have scented its enemy, and by jumping up or otherwise moving would have exposed itself to sight and attack. If, on the other hand, the wind was blowing from buffalo to Tiger, the beast of prey, if hunting by scent, or possessing a strong

sense of scent, would no less surely have scented the quarry. That the immunity of the buffalo was not due to suspicion or lack of hunger or of desire to kill has been evident when the Tiger immediately afterwards has killed other animals picketed farther on.

Hunters who have been in the habit of sitting in ambush in a tree or on the ground have always taken precautions against betrayal by sight or sound, but appear to have ignored the question of scent, and have even found it unnecessary to refrain from smoking. On this point, however, I have no personal experience, not having been in the habit of "sitting up" for Tigers, and not being a smoker. At the same time it must be remembered that the watcher is generally perched high up in a tree, and his scent would not descend.

It is perhaps not irrelevant to compare the senses of the Tiger and the leopard, regarding which similar observations have been made. It might be urged that the leopard is more familiar with and indifferent to the presence of man, for it has the habit of prowling round the outskirts of villages in search of stray calves, goats, and dogs, and of picking up an infant carelessly left on the threshold of a hut. But the same absence of the use of any sense of smell may be observed in leopards inhabiting remote jungles, where there are no villages, and where they are not so likely to come into contact with man and would therefore more probably be alarmed at his presence.

I have smelt a leopard lying in dense bush at my feet, but the animal showed no sign of having scented me, and I have shot many at close quarters when unaware of my presence. One came at night to the carcass of a calf and set to work on its midnight feast on one of the

rare occasions when I have watched in ambush. It stood on its hind legs with fore-paws on the carcass and stared at the opening in the screen of bushes behind which I sat while it masticated pieces of flesh ; but whether aware of my presence or not, it bent down again to resume the feast. At the same time it has to be remembered that a leopard lying in concealment will not move even when one is close to it, unless aware that it is being observed, no doubt hoping thus to escape observation.

However, both animals seem to make little use of their sense of smell. The questing beast wanders far in search of prey during the night, not sniffing the air or the ground to scent his quarry, but with the senses of sight and hearing alert. He seeks his prey along jungle paths or at water holes, or lies in wait in some thick cover by tracks frequented by game, whose approach is detected by the sound of their footfall or to watching eyes when they come into view.

But although Indian sportsmen generally agree with these views, I am not convinced that the question of the sense of scent has been finally disposed of. An instance has been related of a Tiger in the open walking at right angles to the wind which was blowing from men who were watching him. When he arrived at the spot where the scent was carried to him, he at once bounded away with a grunt of alarm, not even looking at the human beings whose presence was borne to him on the breeze.

One swallow does not make a summer, and in any case this solitary instance is not conclusive. The incident took place in a game sanctuary where Tigers are not molested by man, and there seems no reason why the animal should have shown such fear at the sudden

scent of a human being. Its action might be due to other causes, especially as it is not like the beast to behave in this manner, and bound off without looking at the object that has alarmed it, even if such alarm were due to scent. The Tiger would be expected to stop and look, if only for a moment. There is always too certain an assumption that animals have an instinctive fear of man.

But there is something more to be said on the other side regarding powers of scent. Sir S. Eardley-Wilmot, an experienced sportsman and keen observer, who served many years in the Indian Forest Department in constant touch with wild life, wrote¹ that a Tiger may go away to a distance and return to its kill, but if the kill is dragged a few yards it is often unable to find it. But, he added, "a Tiger will follow up a drag if it likes for long distances, and has been observed tracking a sambar hind whose evident anxiety points to suspicion of danger." He was still more definite in writing—"Both Tigers and panthers will hunt by scent, especially in cases of a drag or of a wounded animal; and I have frequently seen a Tiger smelling carefully and with deep inhalations the track of men and elephants; yet their noses seem powerless to warn them of an enemy who is raised a few feet only from the ground. A Tiger will lie down under a *machan* on which a man is sitting."

Another interesting contribution to the subject is that of an American traveller, Mrs. M. H. Bradley, that in Annam "Tigers preferred dead bait—high."² The bait over which she and her husband watched was accordingly killed beforehand, and not left for the Tiger

¹ Journal of the Bombay Natural History Society.

² *Trailing the Tiger*. M. H. Bradley. Appleton.



TIGER TRACKS

to kill. She shot a Tiger by this means, which certainly indicates, though not conclusively, that the animal was attracted by the scent of the carcass.

Perhaps the views of African observers bearing on this question are more important, the lion being so closely allied to the Tiger. The correspondence in *The Times* already referred to brought some interesting letters from such experienced hunters and naturalists as Sir Alfred Pease, Mr. Abel Chapman, and Mr. Norman Smith with regard to the habits of the lion. Not only is the question important, as it affects a closely allied feline animal, but it is interesting to compare the habits and attributes of the two species.

It must be borne in mind that these habits and attributes, although very much alike in both, differ with the environment, the Tiger generally inhabiting more or less dense forest, while the lion is addicted rather to wandering over extensive plains, as in the Haud of Somaliland and the Athi and Serengetti plains. It will be seen also that the country inhabited by the lion in India, formerly in Harriana and now confined to the Gir forest in Junagadh, bears much resemblance to the habitat of the lion in Africa, while the lion and the Tiger are not found in Asia in the same districts. Harriana, for example, when the lion inhabited it, was essentially a dry country, though not a desert in the ordinary acceptance of the term. There was scarcely any water, except in the canal and in village tanks or ponds. It is sandy country with ranges of sand hills extended for miles. In a favourable year, the sand hills were covered with crops, but generally only scanty patches were sown in the hollows. In the low ground were the usual Indian crops.

There is a slight difference, referred to in a previous

chapter, in the conformation of the nasal organs of the lion and the Tiger which may affect their olfactory powers. It has been pointed out by Mr. Pocock, with regard to the cranial differences between the two species, that "Tigers on an average have more vaulted skulls, with longer and narrower nasal bases, narrower anterior nares, the facial part shorter as compared with the cranial part, and the lower edge of the mandible is straighter than in lions." It has already been remarked that possibly these nasal differences may in some measure account for the lion possessing keener powers of scent than the Tiger, although as to comparative power or use of powers of scent there are differences of opinion.

In this connection it is interesting to quote Professor G. M. Robertson, who wrote that "speaking generally, animals with a flattened face, like that of a cat or of man himself, function mainly through their sense of sight. There is abundant evidence that Tigers have a poor sense of smell like ourselves, but their sight and hearing are very acute. On theoretical grounds, lions should have much the same disposition. On the other hand, animals with an elongated face, affording accommodation for a large expanse of nasal membrane, rely usually upon the evidence of the sense of smell, as, for example, dogs, deer, and horses, and not excepting the rat (he might have added 'the bear,' which possesses a very acute sense of smell). Speaking colloquially, such animals think in smells." They also hunt in smells! It may be suggested that the lion, having wider anterior nares than the tiger, and consequently more nasal accommodation, may have more sense of smell. But it would be a mistake to suppose that the Tiger has no sense of smell, or that he makes no use of it.

The Tiger is slow to distinguish a stationary object, but quick to see the slightest movement. Tigers have stared at me for some moments with unseeing eyes at a distance of not more than twenty or thirty yards, until warned by a movement; although they have indeed stared as though trying to make out what the strange object is. Professor Robertson wrote that "the intelligent interpretation of what is seen is very poor in animals, as compared with man, excepting for those objects with which they are familiar. The sight of a strange object arouses only suspicion or curiosity, or it may derange and inhibit a customary procedure which would otherwise have taken place. . . . But if animal vision be defective in the intelligent interpretation of stationary objects seen, as compared with man's capacity, sensibility to 'flicker' and movement is exceptionally acute, and invariably attracts attention."

Regarding sight, Mr. Herbert Long, addressing the first meeting of the National Society for the Preservation of the Fauna of the Empire at Pretoria, said that "it was well-known that, although the lions in the Kruger National Park remained as dangerous as ever, they could not see objects otherwise than as a complete whole. A motor-car to lions was like an elephant—only a bulky object. It was certain that lions did not perceive people as such, sitting singly in a car. So long as people in the car made no swift movement, they might enjoy the effect of being invisible, at least to the lions." Perhaps this applies to Tigers also, as in the case of a motorist who, just after dark between Hazaribagh and Calcutta, saw a Tiger standing beside the road twenty yards off. It crouched, and when abreast sprang at the car, just missed the hood as the driver accelerated, and then chased the car fifty or

sixty yards. But man-eating Tigers are not uncommonly in the habit of taking the driver out of a bullock-cart, stalking and rushing the victim in the usual manner, and evidently quite aware of his presence, although the driver, having no warning, makes no quick movement.

The defective interpretation of objects seen is equally poor in other animals. A man on elephant-back may penetrate unnoticed into the midst of a herd of wild elephants, while bison will not observe his presence. Mounted on a camel, a horse, or a bullock-cart, it is possible to approach antelope, great bustard, and other game, when on foot a man cannot get within gunshot. Perhaps this fact accounts for the lions of Tsavo having in one case preferred a bag of rice to fourteen coolies in the same tent, and in another seized a mattress in preference to the man lying on it. These instances both point to a deficiency in recognition of objects either by sight or scent, perhaps in the flurry of the moment, like that quoted by Mr. Denis Lyell of a lion taking a bag of salt from outside a tent, and picking up a mail-bag dropped by a post-runner who climbed into a tree, although the bags may have had a human taint. Both Tigers and bears have been known to worry a hat dropped by a man ; but it is at least doubtful whether the hat was mistaken for the man, although the owners are to be congratulated that their heads were not in their hats.

In considering the scenting powers of the lion, the immediate effect of environment was dealt with in an interesting letter from Mr. Abel Chapman, who wrote to me on 23rd September, 1928, after he had written to *The Times* in support of Selous' views, that it must be borne in mind that "scent, being wind-borne, cannot

travel a single yard up-wind." He wrote that on the great plains where lions live, with no obstructions to scent, probably that would be the chief or only sense employed in hunting; whereas in thick bush or Indian jungle scent would be continually deflected or arrested altogether.

I do not know whether this would be the case, or whether such cover does deflect or arrest scent; but certainly animals living and hunting in open country would probably rely even more on sight than those living in dense forest, where sight is greatly restricted and where other senses would come more into play. One would expect from this that the Tiger would develop superior powers of scent, rather than the lion. Thus in forest man relies more on powers of hearing, and in plains entirely on those of sight.

Sir Alfred Pease contributed to *The Times* correspondence an interesting letter in support of the views of Selous and Abel Chapman. He pointed out the difference between a "winding nose" and a "hound nose," as Chapman had already done when he said that there are different interpretations attached to the term "hunting by scent"; and that the lion does not "go nosing about the ground, sniffing the spoor of his quarry like the hyena, but seeks his scent breast high on the breeze and detects the position of game while several hundred yards away." The nose of the lion, he wrote, is not a hound nose but a winding nose. It may be remarked that Colonel Patterson's account of the man-eaters of Tsavo appears to confirm this view. They often seemed to scent the presence of their quarry in the darkness of the night.

Sir Alfred Pease pointed out that lions and leopards certainly go up wind to game, kills, and carcasses. On

the other hand, Mr. Norman Smith says that obviously these beasts go up wind to game, just as the hunter himself does, not necessarily because they are scenting the game, but in order to avoid giving their scent to it. He considers that the lion can smell the odour of carcases in hot weather, but at a much more limited distance than the hyena, which will visit a carcass that the lion's nose has not enabled him to discover. At the same time he holds that the cats possess a winding nose, but use it little when hunting. He concludes that he "has hunted lions single-handed and on foot, despising the machan and boma methods at night by which most of the lions are killed in Kenya nowadays"; and says that when he has spotted a lion in the open, he has never considered the direction of the wind of much importance in stalking him. However, we have to take into consideration the apparent indifference of the lion to the presence of man; for example, a newspaper now before me refers to 32 lions standing to watch the proceedings of a group of photographers!

Finally, the habits and behaviour of the lion and Tiger differ from one another in such a marked degree, that it is doubtful whether much light is thrown on the question of the Tiger's method of hunting down its quarry by a consideration of that of the lion. The Tiger appears to be more shy than the lion in the presence of man, betraying more reluctance to approach the vicinity of a human being, and more anxiety to get out of his way.

We will suppose that the Tiger, by scent, sight, hearing, or the exercise of all three faculties, which is most probable, has arrived undetected within range of his quarry. Or, if he is detected, it would be a mistake to think that the quarry will make off at once;

on the contrary, it is the habit of wild animals in general to keep the enemy within view. Better the danger seen than unseen. But the beast of prey prefers to arrive within charging distance of his game, unseen, unheard, unsmelt; he will not rush at it from a great distance; he stalks or creeps crouching according to the nature of the ground until within twenty or so yards of the prospective victim. He rushes upon his prey with a series of bounds, not "springing" and certainly not "launching himself through the air," as is so often represented in picture or description, and seizes it in the death-grip.

CHAPTER VIII

TIGERS AND THEIR PREY

ORDINARILY the Tiger's prey, apart from domestic cattle, including buffaloes, oxen, horses, donkeys, sheep, and goats, consists mainly of deer, pig, and antelope. Of the deer perhaps the sambar and the spotted deer or chital are the most numerous victims, being found in most parts of India. The sambar is the finest of Indian deer, if we except the Kashmir stag, being as much as fourteen hands in height. It abounds in most of the forests of India from the Himalayas to the extreme south, and large numbers must fall victims to beasts of prey. The antlers of splendid stags may often be picked up in the jungle, attached to skulls and therefore not cast : these are frequently gnawed by porcupines.

Swamp deer are more local ; they are not found south of the Tapti river, although they are plentiful in the Mandla district of the Central Provinces, and abound in the sub-Himalayan region in the United Provinces and Assam. Their antlers have many tines, while the sambar belongs to the rusine type, with normally only three tines to each antler, like the spotted deer and the hog deer ; chital are especially partial to the neighbourhood of water, and at one time existed in immense herds on the banks of rivers, such as the Pein Ganga in Berar, where their presence no doubt helped to attract the numerous Tigers that infested those jungles.

While the sambar casts his antlers in March, before the advent of the hot weather, the spotted deer generally keeps his throughout that season. But I shot in March a stag whose horns came off as he fell down a bank into a pool of water, so they must have been ready to cast.

Then there is the little kakar or muntjac deer, which from afar off gives warning of the Tiger's approach, barking like a dog ; but many fall victims to the great cats, as do the four-horned antelope. The nilgai, the largest of Indian antelope, bearing a resemblance to some African species and as large as a sambar, is perhaps the commonest prey of Tigers, a big blue bull furnishing as many meals as a half-grown buffalo or a good-sized bullock. Nor must the hog be forgotten, for both the Tiger and the leopard are fond of pork, although the shikaris say that a great wild boar will drink without fear between two Tigers !

Both Tigers and leopards sometimes indulge in queer diet. I have shot many with porcupine quills sticking in their paws, and one Tiger with suppurating wounds in the back of the neck, which looked as though he had rolled on the porcupine, although my native shikaris declared that the quills had been shot by their owner like arrows from a bow ! No doubt both animals, as well as the lion, are fond of porcupine flesh ; some people consider it a delicacy. A Tiger has been found dead with a large quill through a fore-paw, and another, as well as several leopards, with the throat transfixed by many quills ; one was found dead beside a porcupine of which he had bitten a mouthful ; five quills were stuck in his chest and his liver was in rags. A porcupine was seen to attack and put to flight a leopard at a pool of water where both animals were drinking ;

and one attacked a leopard that had been shot, filling his dead enemy with more than five dozen quills both before and behind. A goat, picketed as bait for a leopard, was killed by a porcupine in a narrow nullah ; the porcupine must have backed into the goat, several quills being imbedded in the heart.

I found in a pool of water a large python bitten in half by a Tiger, and part of the middle eaten ; and over two feet of snake in one piece has been extracted from the stomach of another. This is interesting, as cats generally have a great aversion to snakes. A captive Tiger was killed in its cage by the bite of a cobra. Tigers will eat the scaly ant-eater or pangolin called *ban rohu*, the forest carp, by the natives ; its armoured plating must be difficult to tackle, and when it rolls itself up into a ball nothing (short of a Tiger !) will make it relax and unroll. They also pick up such unconsidered trifles as fish, crabs, frogs, and scorpions, and it is said that in the Nallamallai Hills there is a forest fruit the size of an apple which Tigers and wild dogs eat greedily, while it is also a favourite food of the buffalo, but is not eaten by the bear, a curious circumstance in a creature so fond of fruit.

Evidence of peculiar food such as porcupine quills, crabs, scorpions, and remains of fish may be found in the stomach or the droppings of a Tiger, as well as claws of their own kind or of leopards, and human bones, finger-nails, and rings in the case of man-eaters. While the hides of thick-skinned animals such as cattle and deer are not soon digested, soft human skin quickly disappears. Sometimes man-eaters with defective teeth cannot readily break up cattle or deer ; like the man-eating Tigress of Mandali, they deal easily with the bodies of human beings.

It was said in the last chapter that the Tiger rushes upon its prey, not springing as is constantly represented, and seizes it in the death-grip, which is seldom relaxed. Generally the hind-legs do not leave the ground in seizing, although it may perhaps on occasion spring from a height on to the victim below, while I have known a charging Tiger jump across a nullah and over a man who was beneath.

There has been, however, much controversy concerning the method of seizure and killing adopted by the Tiger, the main question being whether the victim is seized by the throat or by the back of the neck. Subsidiary questions relate to whether the vertebræ of the neck are dislocated or broken, and the action of paws and claws, including the old belief in the "sledge hammer" blow. It is curious that most of those who have dealt with the question of seizure have written as though Tigers practically always adopted a uniform method of killing. It is surely reasonable to suppose that the method varies, not only in the case of the species generally but of individual animals. It may depend largely on the nature of the victim, on its position when seized, and on other attendant circumstances.

As an example, an animal with large and formidable horns and great powers of resistance, such as a buffalo, would in some positions present an obstacle to seizure by the back of the neck. A hornless animal could be equally well seized by the throat or the back of the neck. An elephant, a bison, or a full-grown buffalo, might well be disabled first by hamstringing. An owner of camels told me that he had known them to be killed while lying down, the neck being seized. Generally speaking, the Tiger stalks its prey in such a stealthy

manner that the victim is unaware of its approach. The man-eater usually seizes a sleeping victim by the throat ; one who is awake, either walking or perhaps riding on a cart in daylight, by the back of the neck. In various cases it is recorded that a man was seized by the beast putting its head in at the door of a tent, and gripping the throat. One was dragged by the leg out of a closed tent, to which the monster could not gain easy access ; the victim was then taken by head and neck and killed. Another Tiger jumped down from a high bank, and the man's back was severely clawed. In another instance a man lying in bed was seized by the head, the canine teeth closing through the temples until they met in the brain.

One of the most competent observers, the late J. D. Inverarity, examined scores of kills with special reference to the method of killing, and found that "in every case except one the throat had been seized from below. The exception was an old boar that had been seized by the back of the neck from above." He also related that he came across a man who had been seized by a man-eater by the nape of the neck. The man recovered, and when he came to had no idea of what had happened to him.

Inverarity's opinion is supported by that of Sander-son, a very accurate and capable naturalist, who says that, out of hundreds of kills he had seen, only two had been seized by the nape of the neck ; one was a boar which had eventually beaten off a Tigress, but was found dead several days afterwards with fang-wounds at the back of his head ; the other a huge bull buffalo, which had been attacked when lying down and seized by the nape of the neck.

On the other hand, Captain Baldwin, who also



“examined scores of bullocks killed by Tigers,” considered that “the Tiger almost invariably seizes his prey by the back of the neck.” He wrote that in the majority of cases he found the neck broken, and the deep holes in the back of the neck caused by the fangs. Sometimes, though certainly less often, he discovered undoubted evidence that the dead bullock had, in the first instance, been felled by a blow from the terrible fore-arm of the Tiger.

Here is a direct conflict of opinion. But a close examination of Baldwin's book discloses that he was not as competent an observer as the two authorities already quoted. The same remark applies to Forsyth, a fine sportsman and writer, but not a first-rate naturalist, who says that the Tiger's usual way is to seize with the teeth by the nape of the neck, and at the same time use the paws to hold the victim, and “give a purchase for the wrench that dislocates the neck.”

Baldwin's remark that the Tiger “seizing his victim by the nape of the neck (not the throat) brings it to the ground and then gives it that fatal wrench or twist which dislocates the neck and at once puts an end to the struggle,” may be compared with that of Inverarity, who was a great lawyer accustomed to weigh evidence. He said in an address to the Bombay Natural History Society: “The victim being seized, all authorities agree that the neck is dislocated by a wrench.” But he does not commit himself to an opinion as to either the fact or the “authorities.” He added: “I have never been able to understand how this dislocation takes place. A wrench, one would suppose, would throw the animal over before dislocation could occur. I have always doubted whether dislocation takes place. I have never noticed any

external appearance of it, but I don't place much reliance on that, as the body is generally stiff before one gets to it. Actual dissection, which one is not generally inclined for under a hot sun, I have never tried."

I have seen about a hundred kills, but have not made a sufficiently careful examination to say whether the victims were seized by the throat or by the back of the neck. Those who have seen the actual killing have observed both methods. Many writers merely repeat what has been written by their predecessors, adopting views as their own without having made original observations. Probably there is no invariable method of seizure, and it is difficult without most careful examination of the actual carcass to determine how the kill has been effected. There are generally claw-marks about the shoulder and often on the head or nose, indicating that the animal has been seized by paws and claws by the shoulder and forepart of the head; but sometimes such marks are absent, and the Tiger may seize with the jaws only.

From an examination of the evidence, including that of Mr. Dunbar Brander, one of the most experienced and trustworthy observers, it appears that while there is no uniform method of seizure, in the majority of cases the victim is seized by the throat from beneath, borne to the ground, and held down until dead or dying; the neck may be dislocated or broken, more by the fall and the victim's weight than by any deliberate wrench on the part of the Tiger.

The consensus of competent opinion is also against the "sledge-hammer" blow. The victim is frequently seized by nose and shoulder with paw and claw, and the terrific fury of the onslaught may give the appearance

of a blow. A Tiger has been known to kill cattle by a smart blow on the head. Certainly in the fury of attack a victim may be struck with great force. I have seen a thick brass dish, carried on a beater's back, pierced by claws driven right through it by an angry Tiger which charged through the line. Surgeon Johnson saw claw-wounds into which the toes of the Tiger had been driven after the claws by the force of impact.

When the neck is seized, the jugular vein may or may not be severed ; there is no sucking of blood, and often there is no blood on the tracks of a dragged kill, human or otherwise, the holes in the throat being closed by the destroyer's fangs, thus preventing the flow of blood. Although death is seldom due to a blow of the paw, instances are recorded of men's heads being crushed like an egg-shell by both the lion and Tiger.

It has been said that hamstringing of large animals is sometimes done by the Tiger ; these are generally elephants, and full-grown bison and buffaloes. But Sanderson shot in Chittagong a Tiger that had killed a young elephant about $4\frac{1}{2}$ feet high at the shoulder and weighing perhaps 600 lbs. The elephant's hind legs were hobbled, and it was seized by the throat and dragged a few yards. A large quantity of flesh was eaten off the hind-quarters. He heard that in Assam a full-grown tame elephant, hobbled and turned out to graze, was attacked by a Tiger, and severely bitten and mauled before its cries attracted the keeper. Large pieces of flesh were torn from the thighs.

Attacks on elephants were recorded in the *Field* of 13th February, 1892, some of them fatal, although it has been said that in such cases both the Tiger and the lion always get the worst of it. Mr. Corbett, Conservator of Forests in Burma, heard that a female and calf

had been attacked and the calf killed in the Pegu Yomahs. The calf, a two-year-old male, was tackled by the Tigress, and the mother elephant went to the rescue, but was badly mauled about the hind-quarters and driven off. The calf was killed and partly eaten. Later the same animal attacked a full-grown elephant when asleep, mauling the top of the shoulders and back. A few days later a Tiger attacked a big tusker, which died five days afterwards, when in a narrow and shallow nullah with steep banks. The Tiger jumped from the top of the bank, and was shaken off more than once, but returned to the charge again and again. Attacks were concentrated on the backbone and a foot in front of the root of the tail, and dreadful wounds were inflicted along the whole length of the back. No doubt large animals are often attacked from behind, and sometimes hamstrung. I shot a big bull nilgai which was in a very emaciated condition and had suppurating wounds inflicted by claws along his back and haunches, but he was not otherwise injured. In Tenasserim a tapir has been found half eaten by a Tiger, but it is not stated how it had been killed.

A Tiger has been shot in the act of hanging on to the hind-quarters of a buffalo, the tendons of both legs having been severed, and a bull bison with a broken leg unhealed, and other wounds inflicted a year or more before it was seen. In Burma many instances have been recorded of Tigers killing large animals after hamstringing, first one leg and then the other being bitten and disabled. Camels may also be attacked in this manner, as the Tiger may be unable to reach the throat of a standing camel; my camel man in 1895 told me that he had known camels to be attacked and seized by the throat when squatting at rest. Tigers will eat one

another and also eat leopards, as elsewhere recorded in this volume.

The Tiger often drags his prey to a considerable distance, especially if the kill has taken place in the open, and if there is no cover and water near. It may be said that he never feeds on the site of a picketed kill, unless the prey has been so securely tethered, perhaps by a wire rope, that it cannot be dragged away. I have almost invariably found the hemp rope broken by which the young buffalo's fore leg has been picketed, and the carcass taken into adjacent cover. It has already been explained that the bait is picketed in the open in order that the prowling beast may not pass by without seeing it. It is therefore natural that it should be dragged to a more convenient spot, where it is not likely to come under the eye of vultures or marabout storks, which may generally be seen soaring, distant specks far up in the azure sky. It is interesting to note that vultures will continue to feed after sunset—a horrible sight to see the pullulating mass of foul birds tearing and gobbling great pieces of flesh.

Often beasts of prey remove the stomach and intestines of their victims and place them on one side at some little distance, perhaps covering up, or burying, or pushing this offal under a bush. The lion has the same habit. But sometimes the entrails are left in the carcass. A man-eater has been known to have the habit of stripping the body of clothes and ornaments, thus perhaps showing more intelligence than the cannibals of New Guinea who cooked a white man in his boots, thinking they grew on the feet. Even the hair is sometimes stripped off a human corpse, although the skull is generally left uneaten as the dogs left the skull of Jezebel as well as her feet and the palms of her

hands. But Rice relates that a Tiger carried off a young man close to his tent, and ate off the face, hands, and feet before the body was recovered.

The Tiger, where tracks or other indications of the nature of the beast are not present, may be identified as the culprit by the fact that he almost invariably begins eating at the haunches, while the leopard almost as invariably begins his meal at the pelvis or the chest. Very often the Tiger will bite off and eat a calf's tail, and I have known a leopard do this. The Tiger will eat uninterruptedly for several hours, tearing off large chunks of flesh, which are masticated and swallowed; perhaps 200 lbs. or more beef may be eaten at a sitting. He drinks at intervals, and always after finishing his meal, lapping the water with his tongue like other cats. He perambulates in the vicinity of his kill in the morning, perhaps by way of a constitutional before retiring to rest for the day in a nearby thicket or other shady spot.

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CHAPTER IX

MAN-EATERS

I HAVE pointed out elsewhere¹ that it is exceptional for wild animals to take to man-eating. While the causes of this propensity are often obscure, it is possible to indicate some reasons which probably conduce to it in the case of the Tiger. Whether human flesh is repulsive to carnivorous beasts as that of carnivorous beasts usually is to man, or whether fear of man, ingrained or acquired, is a reason for his being avoided, is open to question. But by some peoples the flesh of some carnivorous mammals is eaten, while there seems to be no natural fear of man in wild animals, as proved by their fearlessness where they have not been molested. Dogs, wolves, jackals, and hyenas exhibit no aversion to human flesh, and vultures feed indiscriminately on all carrion. When lions, Tigers, and leopards take to man-eating they appear to prefer human to other prey; a leopard will step over a sleeping dog to seize a child lying beside it; and the man-eating Tiger will carry off the herdsman in preference to his cattle.

Among the causes of man-eating is disablement by age or injury, making it difficult to hunt and kill wild animals, and in the case of age, decayed teeth, as in the man-eating Tigress of Mandali, rendering it hard to break up cattle and other tough-skinned beasts.

¹ *A Book of Man-eaters*. Hutchinson & Co. 1931.

Man, in the absence of any fear of him, is an easy prey, while his thin skin and soft flesh are easily masticated.

It used to be supposed that man-eaters are always mangy beasts, decrepit from age, injury, or infirmity, the defective condition of the coat being ascribed to the eating of human flesh. But while in many instances they have been old animals with broken teeth, or disabled by wounds which may have rendered them savage and inimical to man, this is not always the case. According to Selous the man-eating lion is invariably an old and decrepit animal ; but the man-eaters of Tsavo were young and vigorous. Man-eating Tigers are often as young, strong, and lusty as those preying on game and cattle. It is quite probable that in former days when natural prey was abundant, man-eaters were more commonly decrepit than in recent times when game is comparatively scarce. The modifications in the Indian Arms Act, leading to the increased destruction of deer, antelope, and pig, their principal prey, may cause a proportionate increase in the number of Tigers addicted to man-eating. It would be interesting to analyse the figures of human mortality from different localities, recorded by the Government of India, from this point of view. In former times native shikaris were limited in number and were poorly armed with matchlocks and other primitive weapons. Now with more efficient cheap firearms, and their more general use, wild beasts are not so formidable and are more easily killed.

Another cause of man-eating may have been a liking for human flesh, acquired from feeding on the bodies of the dead or dying and helpless in times of famine and epidemic disease. To this cause was ascribed the destruction wrought many years ago by wolves in

Cawnpore, when numbers of these animals were first attracted to the neighbourhood by the dead bodies of famine victims who, "crawling for relief, perished through weakness before they could obtain it, and filled up every avenue of the cantonment with their sad remains."¹

This accustomed them to human food, perhaps to a fearlessness of man and a preference for his flesh, and they took to man-eating, even attacking sentries on guard. The burial of the dead in shallow graves was supposed to have given rise to the depredations of a pack of wolves which killed more than a hundred human beings in Hoshangabad in 1890. It may have been the initial cause of the destruction of human life by Tigers long ago in the town of Bhiwapur, which was deserted by the inhabitants after these animals had killed four hundred people in a short time. In Africa, according to Dr. Church, with regard to leopards and hyenas, in Ruanda, "Traces of famines, which provide almost unlimited human food for the carnivora, have an aftermath when their craving for human flesh must be satisfied by attacks on people."

But it seems probable that the chief cause of man-eating arises from the difficulty experienced by the Tigress with cubs in obtaining food, and so resorting to human kills. This may become, not hereditary but a practice acquired by experience and passed on to the descendants and may account for the prevalence of man-eating in particular localities, in the Sundarbans of evil reputation, in the neighbourhood of Bombay fifty years ago, and at the present time in one district of the Central Provinces. The Tigress passes on the taste for human flesh to her offspring, and so it may be

¹ Forbes' *Oriental Memoirs*.

perpetuated. It has been observed that man-eaters are more often female than male, and there are numerous instances of man-eaters being Tigresses with cubs.

The literature relating to man-eating Tigers is not extensive considering the great number of deaths in India due to these animals. There must be many terrible and poignant tragedies involved in the statistics published each year by the Government of India, when deaths from the attacks of wild animals average some three thousand per annum, of which about a thousand to sixteen hundred are attributed to Tigers. It was recorded in *The Times* in 1872 that the mortality from wild beasts in the three previous years had numbered 12,554 human beings, while during the same period 25,000 deaths were attributed to snake-bite. The latter figure now amounts to some 20,000 yearly, but perhaps this is due to more careful record, and possibly the deaths from wild beasts were correspondingly higher sixty years ago, when "whole villages were depopulated and public roads and thoroughfares rendered unapproachable by human beings even in broad daylight, and thousand of acres of once cultivated land were entirely deserted and consigned to the growth of vegetation, to offer in their turn safe coverts to other noxious animals." The annual mortality from the attacks of wild beasts still amounts to some 3000 human beings.

It is remarkable that, in spite of the immense numbers of Tigers killed, human mortality should remain as high as it is from this cause, although the Tiger has disappeared from many districts such as those described in *The Times*. Bengal, and particularly the Sundarbans of the Gangetic delta, still maintains an evil reputation, dating back at least to the end of the

eighteenth century, when two Europeans were carried off by man-eating Tigers on Sagar Island, as described in *A Book of Man-eaters*.

In 1825 Bishop Heber wrote that the natives regarded Sagar Island with so much dread that it was almost impossible to induce them to approach the wilder parts of the shore, even in boats, as instances of Tigers swimming off to a considerable distance were not infrequent. He added that "it was a fortunate circumstance that some such terror hangs over Sagar to deter idle seamen and young officers from venturing on shooting excursions so much as they would otherwise do, on a shore so dreadfully unwholesome as these marshy islets are." No doubt the deaths of two Englishmen had a deterrent effect, although they would have no more influence on adventurous youth than the man-eaters of a district of the Central Provinces have had even in these degenerate days of "safety first."

Between 1820 and 1828 nearly 1100 Tigers were killed in the Bombay Presidency, when a sportsman at Ahmednagar complained of the great decrease of these animals ; in one district of Bengal 268 were killed in 1844, and 252 in 1847 ; in 1877 in British India 1579 were killed, including 426 in Bengal and 375 in Assam. The tale has continued, although in lessening numbers, not only owing to the diminution of Tigers by shooting and the reduction of their habitable area, but since district officers have less leisure in touring their charges, while perhaps sportsmen are fewer in days when "the ruling race" no longer make their homes in India, and pay more frequent visits to their native land.

Over 3400 people were killed in British India by wild beasts in 1877, including 819 victims of Tigers ;

but no doubt they were also responsible for a large proportion of the 1300 deaths ascribed to unspecified animals. Of the total, 347 were attributed to Tigers and 617 to unspecified animals in Bengal alone. In 1879 the total mortality bill numbered 2890, and in 1880, 2840. In 1908 there was no decrease in Bengal, where 455 people were killed by Tigers. In 1922 the deaths numbered 3263, of which 1603 were due to Tigers. There was some diminution in 1927, when wild beasts killed 2285 people, including 1033 killed by Tigers. Throughout all these years the deaths from snake-bite numbered annually about 20,000, reaching over 25,000 in one year.

In fact, notwithstanding the war waged against wild beasts, the destruction of human life has continued. Some fluctuations are due to particular causes, such as the appearance of specially destructive animals. Thus in 1900 and 1901 there was an alarming increase in the Central Provinces, especially in districts contiguous with Hyderabad territory. In the Chanda district in one year the number of human beings destroyed by Tigers was double that of the preceding year. The last year of the nineteenth century was one of famine and drought, which may have been a cause of death from the attacks by wild animals on people wandering in the jungles in search of berries and other wild products. It followed on other years of scarcity. The wanderers would be weakly and in many cases dying, while human food for wild animals would thus be unusually abundant.

The Chanda district marches with Hyderabad territory for many miles, while on the south it borders on the State of Bustar, to which white sportsmen have not access, and where man-eating Tigers were especially

prevalent. The wild and remote forests of these territories, largely inhabited by aborigines armed only with bows and arrows, furnished undisturbed breeding grounds for the great carnivora, from whence they could migrate into adjoining districts. It is significant that in the year 1900 the deaths from wild beasts in the Chanda district were more numerous than in the whole of the remainder of the Central Provinces. Individual man-eaters often send up the mortality in particular areas. Thus in 1903, forty-eight people were killed in the Sambalpur district by one Tigress.

Yet in the State of Hyderabad where, owing to the absence of an Arms Act, every man was armed, although the people killed few predaceous beasts, but exterminated their natural prey, deer, pig, and antelope, man-eating has not been widely prevalent, at any rate in the last fifty or sixty years; in 1878 only eleven people were killed by Tigers, and only thirty-two Tigers were killed. The fact of the special prevalence of man-eaters in certain districts over a long series of years is not easy to account for but must be ascribed to the practice being passed on in Tiger families.

In Burma man-eating has always been sporadic and not widely prevalent, while almost absent from some parts of that country. Many years ago Helfer wrote that in Tenasserim the man-eater was scarce, though Tigers were found in great numbers, and were very large and strong. "Its nature," he said, "is very different from what it is in Bengal, for scarcely an example is known of its attacking man during the day-time, and the carelessness and even contempt with which the natives treat this formidable animal is truly astonishing, although they penetrate daily into untrodden jungles, sometimes quite alone." But cause

and effect must be properly related ; Tenasserim was very sparsely populated, and game provided plentiful prey. Also it has to be remembered that everywhere Tigers generally avoid the presence of man, and leave him unmolested even when traversing alone untrodden jungles. Tigers in Burma were, and perhaps still are more numerous in the hills than in the plains. The Karens build their houses on piles or poles ten or twelve feet from the ground, and climb into them by ladders, which are pulled up at nightfall.

While the literature dealing with man-eating Tigers in India is considerable, including the Government reports, we have little information regarding their depredations in other countries. It would be interesting to learn whether man-eaters are known in Northern Asia and in China. In the Malay Peninsula they are not unknown, and at one time they were most destructive in Singapore. Statistics accounted for 43 people killed by wild beasts in the Malay Federated States in 1930 compared with 38 in 1929 ; 15 of these being due to Tigers. Eighty years ago Singapore and the islands between it and the mainland, from which it is separated by a channel a mile wide, were infested by these animals.

Before that, in 1843, Dr. Oxley remarked in a paper on the zoology of Singapore : " Tigers are unfortunately most numerous : the loss of human life from the depredations of these animals amounts to fully 200 persons per annum for the last three years ; this is a frightful and almost incredible amount ; but I have too much reason to believe that it is less than the real loss. A gentleman with whom I am acquainted took some pains to discover the truth, and found that nearly 300 human beings had been carried off in one year,

of whom only seven had been reported to the police : great exertions are at present being made for the destruction of these animals, which is effected by pit-falls, and has been tolerably successful of late, five having been captured and brought into town within the last quarter."

The measures for their destruction in Singapore were not very successful, for fifteen years later they still infested the island. Between the mainland and Singapore were numerous islands covered with vegetation to the water's edge, the largest being Pulobin. Sometimes a Tiger would not be heard of for a time, and then reports were brought in of three or four men killed in a day, and the mortality among the Chinese coolies was said to average two a day, or 600 to 800 in a year. So great was the fear established by these beasts that no one would leave their homes between sunset and sunrise. Man-eating was largely ascribed to the scarcity of wild and domesticated animals.

Already in 1855 Captain Rice had written in his *Tiger-shooting in India* that the fearful ravages committed in Singapore, and the daily loss of life inflicted on the native population in the town of Singapore itself, were "notorious evils which have long required a remedy." The remedy appears to have been applied partly by a French-Canadian named Carble, who settled in the island in the 'forties, and for years made a comfortable living by shooting Tigers, for the flesh of which Chinamen were willing to give a hundred dollars, eating it to acquire courage.

It may be thought that wild animals would hesitate or refrain from attacking troops, but Herodotus relates that lions harried the baggage animals of Xerxes' train in the mountains of Thrace. Layard saw a lion

killed by a Luristan regiment of the Governor of Ispahan's army, one of whose soldiers it had carried off and devoured in the night. In time of famine wolves attacked a sentry at Cawnpore ; he shot one and bayoneted another, but a third killed him. Tigers killed 300 people in a city, and forced the inhabitants to evacuate it, and man-eaters, although they generally attack their prey by stealth, have been known to charge into the midst of a crowd and carry away a victim. The Deccan Army under Sir Thomas Hislop, marching through the valley of the Tapti River, lost several soldiers who were killed by man-eaters, which hung about the rear-guard and carried off stragglers ; while in the following year Chithu, the famous Pindari chieftain, flying before the English pursuing columns, refused to surrender and was deserted by all his people. He took refuge in the jungles on the bank of the Tapti where he was killed and devoured by a man-eating Tiger. His fate was revealed not only by the discovery of his head, which the man-eater generally leaves intact, but also of his property, consisting of his sword and ornamented saddle, and a letter-case containing his papers and a commission signed by Apa Sahib Bhosle, the Raja of Nagpur. A few stories of jungle tragedies were related in my *Book of Man-eaters*, but there are thousands which never come to light, while many are contained in old records or have been passed on by tradition. There are few instances of Europeans being attacked by man-eaters, although many sportsmen have fallen victims in encounters with wild beasts.

Captain Charles Hill had a remarkable escape from a man-eating Tiger in Burma many years ago, when he was in pursuit of the mutineers of the Shan and Karen Levy, with a force of Burmese police. Hill, on arriving

at the village of Yonzalin, heard that a man-eater infesting the neighbouring jungle had destroyed fifteen people during the past month. He searched in vain for the animal that evening, and next morning moved on, marching at the head of his men, a Burmese servant carrying his rifle, and he having in his hand only a stout English walking-stick.

He was twenty yards ahead of his men, who were marching along anything but silently, when he heard something rustling by the roadside. Thinking it might be a peafowl or other game bird, he stopped and called out to his servant to bring his gun, but the man lagged behind and was hurrying up when, Hill related, "by slow degrees out of the low brushwood came the enormous face of a huge Tiger close in front." He could almost have struck it when it first appeared; unfortunately the Burman saw it too, and called out: "A Tiger! A Tiger! He will be killed!" Hill kept his eyes on it and put out his left hand backwards, saying in Burmese: "Give me the gun! Give me the gun!" But the man kept on repeating: "He will be killed!" The detachment also came within sight of the beast and joined in the outcry. All this time Hill was face to face with the Tiger. At last, thinking to frighten the beast away, he lifted his stick across his body and pretended to hit at it, uttering a yell. It at once rushed at him; his stick was over his left shoulder, and he brought it down with the full weight and force of his arm on one side of the Tiger's head with a back-handed stroke. This turned the beast, and seeing its back, and thinking it was bolting, Hill turned and held out his hand, calling out: "Now give me the gun." Before he knew what had happened the stick was sent spinning out of his

hand, which was pinned to his side by one of the hind-leg claws of the beast, who stood over him growling, with one paw on his shoulder.

Hill was 6 feet 2 inches in height, but the Tiger overtopped him a good deal. He bent his back like a wrestler, put his legs well out, and standing against the beast as well as he could, began to hit it vigorously over his right shoulder with his disengaged left arm. The Tiger's head was over his, and he attempted to hit it. Suddenly with a roar the beast struck him in the nape of the neck, and he went down as if shot, the Tiger turning a complete somersault over him and falling on its back. In a moment Hill was on his hands and knees facing the animal as it picked itself up. The blood was pouring down his face and chest over his beard. The Tiger looked at him for a second and then bolted. Hill jumped up, seized his gun, and ran after the beast, but fainted before he had gone many paces. Fortunately only the upper fangs had struck his neck, and in penetrating grazed but did not cut the artery. His men picked him up, bound up his wounds, and carried him in a litter fifty miles to the nearest post. When he recovered consciousness, he found a bottle of brandy at hand, and drank off the greater part of it neat ; this, he said, kept him alive until he got to the post, where Mr. Alcock, the apothecary, cured him in course of time. He had a stiff neck in which there were deep fang-holes, and his arm and thigh were fearfully scarred as if by a red-hot iron, but being a man of immense physical and constitutional strength, he was otherwise as well as ever a few months afterwards. The man-eater was soon after killed by some Karens who set spring guns over a human victim. The people were so furious that they tore the beast to bits, and

Hill could get only one fang. It had killed upwards of twenty people.

This episode is especially interesting, not only as one of the few recorded instances of attack by a man-eater on a European, but from the unusual behaviour of the beast in seizing the victim face to face. For Tigers generally, and man-eaters in particular, seldom face their prospective prey, but seize it unawares. An example of their timidity in the face of observation was that of one which was about to seize a sleeping boy ; the boy awoke and saw the animal, which fled at once. It illustrates the lack of sense on the part of the natives, who were paralysed by fear or astonishment. Had they charged in a body, with accompanying shouts, the beast would undoubtedly have made off at once. The episode also exhibits the remarkable courage of a determined man who saved his own life by his own efforts, and even pursued the Tiger that had seized him.

Generally speaking every man-eater has its peculiar character, although all have common points of resemblance. All excel in cunning and most in apparent timidity. One had an unusual habit of charging a crowd in broad daylight and carrying off a man from the midst of his companions. Ordinarily the man-eater will not attempt to seize one of a crowd, but looks out for stragglers or attacks and carries off the last of an Indian file, the formation in which the natives of India generally travel. So also the cattle-killer seldom takes an animal from a herd in the presence of the herdsman, but cuts off a straggler, although half a dozen cows may be struck down one after another. The Tiger prefers to avoid a fight, but is always ready to defend itself, and is likely to attack if disturbed at close quarters, particularly when lying beside its prey.

While panthers may kill numbers of people for no apparent reason except a hatred of mankind or a desire to destroy, often leaving the corpse uneaten, the man-eating Tiger usually kills for food alone. One in the Central Provinces killed during four years an average of two people every month, but was observed to kill more frequently during the rainy season, probably because the dense foliage then favours an unseen approach. Of eight people killed by one Tiger in Khandesh during 1888, one was killed in July and the others between the 22nd October and the 28th January. A forest officer in charge of the Jessore Sundarbans found that the returns of human deaths were four times as numerous in April and May than at other seasons. This was, he said, the rutting season, when the Tigers' amorous cries could be heard almost incessantly at night, and sometimes by day; they were then most fierce and destructive. A man-eating Tigress has been known to go about with a male which claimed and ate no human flesh.

A man, coming unexpectedly upon a sleeping Tiger, was seized by the hand; his companion struck it a severe blow on the head with a club he carried. The beast relaxed its hold and the man fled, but the Tiger was afterwards found dead with a fractured skull. The wounded man survived many years with the palm of his hand crushed into one mass with two holes through it. A police officer following a wounded Tiger was charged and knocked down and slightly scratched on the leg; the beast then turned on a constable who accompanied his officer, and bit off the top of the man's skull, just as one takes the top off an egg with a knife. The dead constable remained in a sitting position, his face resting on his knees. A man-eater went into a hut



R. S. BURTON AND DEAD MAN-EATER

occupied by two men ; the eaves were low and there was but one entrance. The men saw it by the light of the fire, which burnt brightly but had no effect in keeping the monster off, and as it put its head in at the door, one of them struck it a blow with a bill-hook, but this determined beast was not to be denied. Five times it attempted to seize the same man, and was repulsed. But it watched the whole night, and at the sixth attempt dragged the poor wretch out and carried him off screaming for help, while his companion, half dead with terror, managed to scramble into a tree where he remained until help came.

It is related in the *Oriental Sporting Magazine* that a party of pilgrims were going along a road when a Tiger, which had evidently been watching on the outskirts of the jungle, came out, followed, and sprang on the last man from behind, killing and carrying him off. The marks on the sandy surface of the track were evidence of the tragedy. An English sportsman followed the trail, marked here and there with blood, for a long way through dense jungle, and in a nullah came upon the man's bloodstained turban. The man-eater had taken his prey up a steep bank fifteen feet high, and then, crossing a piece of open grass land, descended into another nullah filled with bush. The pursuit had followed the trail for a mile ; it was quite dark, and the villagers refused to go on, for which they certainly cannot be blamed.

The search was resumed next morning, and a quarter of a mile from the spot where they had left off, the beast had devoured his victim in long grass beside a nullah. Here were a few bones and some clotted blood, and a few yards farther on lay the corpse of the pilgrim, only the upper part of the body remaining, the man-eater,

according to the usual habit, having eaten the legs, thighs, and haunches. The man had been seized behind the ears and dragged away by the neck, which was broken, but the upper part of the body was untouched except for the marks left in the neck by the fangs. This was the tenth human victim within a month. The villagers were so paralysed with fear that they refused to build a platform in the tree, under which they buried the body, and where the hunter wished to watch for the return of the monster.

A magistrate¹ described in the same magazine some pathetic tragedies which occurred in his district in the Bhutan Duars, where he was for a number of years stationed on duty, and where he destroyed many Tigers addicted to preying not only on the cattle but on the people themselves. He was in camp when he received a police report that a boy of six or seven years, the only son of his mother, had gone for water to a tank outside the village in the morning ; a Tiger lay concealed in a small patch of jungle close to the spot, and about fifty yards distant from two men who were ploughing in a field ; he had doubtless been watching for an opportunity to seize one of the plough bullocks, but on seeing the boy so close to his lair he sprang out and carried him off into the jungle.

On receipt of this report the magistrate ordered his elephants to be got ready and proceeded to the village. He sent for the headmen, and related that " in a few minutes they came, followed by a host of men and boys, and some little girls in the background with children (their brothers and sisters) nearly as big as themselves whom they carried on their hips. But in the name of wonder what's that ! Look at that wild

¹ T. A. D. in *The Oriental Sporting Magazine*. 1872.

figure yonder running this way from the village ! It's a woman screaming and crying aloud for justice ! A woman wild with excitement ; her head uncovered, and her dusky tresses flying in the breeze ; she elbows her way through the crowd, and rushes in a frantic state up to my elephant and throws herself down almost under his very trunk. My elephant-driver in alarm backs the elephant, and I too cry out : ' For God's sake, take care ! ' There's tremendous excitement in the crowd, jabbering, howling, and screaming at the very utmost power of their lungs as if Bedlam were let loose."

The people dragged the woman away to a distance ; the magistrate dismounted from his elephant, forced his way through the crowd and went up to the poor woman who was still struggling with those who held her, and peremptorily ordered her release. She immediately rushed towards him, falling at his feet and bathing them with her tears. He stooped down and spoke mildly and soothingly to her, stroked her hair, and removing it from her face, lifted her head gently and looked kindly into her face and asked her what was the matter ? All she could say was : " My child ! My child ! the enemy has taken my child ! Give me back my child or let him take me too."

" Poor creature ! " said the magistrate ; " I am very sorry, but show me where the Tiger is and I will kill him."

" Divine being ! I'll show you the place," exclaimed one of the headmen.

" Very well—get up on one of the elephants and lead the way."

The magistrate then raised the poor woman to her feet, explained that he was going to execute vengeance

on the enemy, and told her to go home quietly, and the villagers to show some sympathy for her distress, and not to behave like such unfeeling brutes. He then started off, and was first guided to the spot where blood showed that the child was seized and the turf was torn up by the man-eater's claws.

"See," said the guide, "the Tiger carried the boy through that gap into the jungle. He was an enormous beast, and the child in his jaws no bigger than a mouse in the mouth of a cat." He related that when one of the ploughmen ran with the news, he counted his own children to see if they were all right. The villagers gradually assembled under a tree to discuss the matter, and then the poor woman came rushing from the village calling her child, screaming out his name ; but there was no answer and she became like one possessed with the idea that it was her child—"It is my child, my only child ! I have done no harm to the Tiger or anyone else, and the deity is unjustly angry with me ; he killed my husband last year, and now he has devoured my child also. Woe is me ! My child, my only child !"

"Then she screamed out : ' O, Ram Krishna (the child's name), where are you ' ! and, hearing no answer, she cried, ' He has taken all I had, let him take me also ! ' and before the villagers could stop her, she rushed madly for the jungle. Some neighbours pursued her and brought her back, struggling like a mad woman. Thinking the woman had gone mad, the people were at a loss what to do, until an old man suggested that they should send to a neighbouring village where it was known that a police constable had arrived."

The guide continued his narrative. "This was done, and the constable, on arrival in half an hour, assumed

an angry mien. 'So,' he said, 'a murder has been committed here, and you send for me to take charge of a mad woman ! Why am I to take charge of her ? The woman is not the murderer ; the police have nothing to do with mad people, and my business is to take charge of the criminal. Produce the murderer, or it will be bad for you ; be quick ! That is the order.'

"The villagers did not know what to do ; they looked at one another like fools. But at last one said : 'The murderer is a Tiger.' 'I know that quite well,' answered the constable, 'but a murder has been committed ; you do not deny that, I suppose ?' We humbly assented. 'Very well then, deliver up the murderer in order that I may take charge of him. As you have sent for me I cannot go without the criminal ; so for the last time I order you to produce him.'

"At this," said the guide, "the villagers were completely dumfounded, some tried to sneak off to the village, but the policeman ordered them back. Then he told the village watchman to fetch cords to tie us up, each man with his hands behind his back. At this we began to look reproachfully at the old man who had given such evil advice to send for this devil who was worse than fifty Tigers. We now saw that what the constable was after was a bribe, but we could collect no more than five rupees among us, and this was offered. 'What's this ?' he demanded—'If you had brought fifty rupees it might be worth having.' He drew a long iron weapon (a bayonet) from a sheath by his side, and said : 'Do you know what this is for ? It is for boring holes through the ears of all who do not obey the police.'

"But now the old man who had got the people into this trouble by sending for the constable plucked up

courage and said : ‘ Look here, Mr. Constable, we are indeed poor men, but it is not our business to seize criminals ; that is the duty of the police.’—‘ Duty of the police ! Of course it is, who said it wasn’t, you old fool ? And it is the duty of the police to seize and punish such impudent old men as you if they don’t produce the criminal when a crime has been committed.’

“ ‘ But,’ said the old man, ‘ you want the criminal, don’t you ? ’

“ ‘ Certainly ; bring him here at once,’ replied the constable.

“ ‘ All right,’ said the old man, ‘ he is nearer than you think. Come along, Mr. Constable ! Come along, friends ; we will point him out to you, and that is all we can do. It will be your duty to arrest him, and if you do not I will go to the magistrate sahib whose camp is not far off, and tell him all that has happened.’

“ The policeman had certainly not expected anything like this, and in the altercation we had forgotten all about the woman. She had crept towards the jungle, and as we all rose to our feet to urge the constable to come with us and we would point out the criminal, we saw that she was near the jungle. We gave a loud shout, calling on her to come back, but she, with a piercing shriek, fled into the jungle, and we with a single impulse rushed after her. But she disappeared, and we heard an angry growl and above it the scream of the woman, and presently the man-eater rushed out helter-skelter with his tail between his legs as fast as he could run across those fields and entered that strip of jungle,” and the guide pointed out the strip we were now in sight of, and resumed :

“ The woman found the body of her child in some

long grass just inside the jungle, snatched it up, and brought it out. The beast had eaten none of it. The policeman, when he saw the Tiger, a very big powerful one, ran away in the opposite direction. We halloed to him to arrest the criminal, but he would not stop and we have not seen him since. He was a Bengali Hindu with high cheek bones, hollow cheeks, and big mustachios."

The magistrate now went on and beat the strip of jungle where the Tiger lay up, taking up his position at the far end of it while the other elephants beat towards him. Then out came the beast and received a bullet in the flank, and turned back and gave chase to one of the beater elephants, which fled, the Tiger following, lashing his sides with his tail as he charged and roaring like thunder; but he was pursued and rolled over finally with a shot in the neck.

With the usual amount of shouting and jabbering of the village people, and trumpeting of elephants, the dead animal was hoisted up on the pad of one of the beater elephants; and on return to camp in triumph, passing through the village where the boy had been killed in order that the poor bereaved mother, to whom some money was given, might see that the enemy to whom she owed the loss of both husband and son had been dealt with as he deserved. But nothing could make up to the poor mother for the loss of her child, to whom she had looked for support in her old age. The rascally policeman would also have had his deserts, but he came from another district and could not be found; and it must be remembered that in those days the police were not what they are now, when they are the true guardians of law and order and possessed of a high sense of duty.

In another village a poor old man appealed to the same magistrate with heartrending cries. His eyes were bleared with weeping, and his white beard was wet and bedabbled with the tears which were trickling down his cheeks. That very morning his son and other young men of the village went out and stretched a net across a grass field to catch deer. A herd of cattle were grazing about the place, and unknown to the herdsman a Tiger had seized one of the cattle and killed it in the field. The young men beat through the grass, not knowing that a Tiger was lying there with its prey. The old man's son came to the spot where it was lying, and it sprang upon him. He struck it several blows across the face with his stick, but it got him down in a moment and bit him badly through the left shoulder and breast, and clawed him about the shoulder and chest. The others bolted, but soon returned with reinforcements, drove the beast away, and rescued the wounded man and took him home.

The magistrate was in camp only half a mile off when the old man came to him. He gave him some brandy, telling him to wash his son's wounds with it, mixed with water. He at once went after the beast, which proved to be a fine Tigress, and within an hour of the accident he had killed the culprit. This early destruction of the beast is of importance to the wounded person, for unless the animal that has caused the injury is killed the man will resign himself to certain death. However, in this case the death of the Tigress was of no avail. The magistrate, having disposed of the beast, went to see the young man and dressed his wounds ; but he was so terribly lacerated as to be beyond the reach of human aid ; the fangs had penetrated deep ; in four days he was dead.

CHAPTER X

TIGER-HUNTING EXTRAORDINARY

IT is curious to find Captain Mundy, in his interesting Journal of his tour in India during the years 1827-28, writing that on the bank of the Ganges near Meerut, Lord Combermere's party, of whom he was one, slew three Tigers in two hours, "a piece of good fortune rarely to be met with in these modern times when the spread of cultivation and the zeal of English sportsmen have almost exterminated the breed of these animals." No doubt his remark was only of local application, and after the same causes have been at work in an increasing degree for another hundred years, there are still enough Tigers in India to cause the ravages referred to in the preceding chapter.

So many books have been written since the beginning of the last century about the usual methods of hunting Tigers by Europeans that the means adopted by the natives of the country claim our first attention, while they are no less interesting. Certainly our English ways have followed generally those pursued by the Princes and Chiefs of India in the past, who hunted, as did Changiz Khan and Taimur the Tartar, by driving and rounding up wild beasts.

The Emperor Babar, founder of the Mughal Empire, described in his Memoirs a Tiger-hunt near Peshawar

without the aid of elephants, when the hunters rode horses. This was when he was on the march with his army into India in 1525. Where the road left the Kabul River, a Tiger was heard roaring, and soon came out of the jungle. The horses became unmanageable and galloped off, plunging down the steep slopes and precipices. The Tiger retreated again into the forest; a buffalo was picketed to entice him, and he soon came out again. Babar and his men assailed him with arrows from every side, and one man speared him, but he twisted and broke the spear in his jaws and cast it aside. He had received many wounds when Baba Yesawal, drawing his sword, smote him on the head and Ali Sistani pierced his loins; he then plunged into the river and was there killed.

The Mughal Emperors were not only noble warriors but fine sportsmen. They adopted the method of *qamargah* or "hunting-rings" mainly composed of mounted men, from the tradition of Changiz Khan and Taimur, surrounding the wild beasts with horsemen and elephants, just as rings with elephants are organised in our time by the Princes of Nepal. But their individual prowess was remarkable. It is related in the *Ain Akbari* that the Emperor Akbar, riding ahead of his escort when he was a youth of nineteen, met a Tigress with five cubs: he attacked and slew the Tigress single-handed with his sword.

The organisation and use of the *qamargah* is described in detail by Abul Fazl in his *Memoirs of Akbar*. Manucci in his *Storia di Mogor* describes the hunting of Tigers and other game by Jehangir, who killed 86 lions and Tigers, making use of both elephants and buffaloes in the chase. The methods of his predecessors were adopted by Aurangzeb, as described by

Bernier in his *Travels*. A vast army was employed in the drive.¹ Bernier wrote :

“ In the neighbourhood of Agra and Delhi, along the course of the Jumna reaching to the mountains, there is a large quantity of uncultivated land covered either with copsewood or with grasses six feet high. All this land is guarded with the utmost vigilance ; and excepting partridges and quails and hares, which the natives catch with nets, no person, be he who he may, is permitted to disturb the game, which is consequently very abundant. Whenever the monarch is about to take the field, every gamekeeper near whose district the army is to pass is called upon to apprise the Grand Master of the hunt of the various sorts of game under his particular charge. Sentries are then stationed at the different roads of that district to guard the tract of ground selected, which extends some four or five leagues ; and while the army is on the march on one side or the other so as to avoid that tract, the King enters it with as many Omrahs and other persons as have the liberty to do so, and enjoys leisurely and uninterruptedly the sports of the field, varying them according to the nature of the game.”

But the common people of India, the peasantry of whom we hear so little in days when politics fill the stage of the Indian drama—these poor toiling millions have many dangers and difficulties to encounter, and should not be forgotten. Although English rule has delivered them from many of the evils of previous centuries, such as pestilence and famine, they still suffer from the wild beasts and snakes with which they have to contend.

¹ *Travels in the Mogul Empire*, François Bernier. A. Constable ; and an excellent article by Salim Ali in the *Journal of the Bombay Natural History Society*, Vol. XXXI.

Their methods of repelling the attacks of wild beasts on their persons and property are still often primitive. They use nets, birdlime, bows and arrows, and a variety of snares, traps, and pits to destroy their natural enemies, although these methods belong largely to times that are past. The chief weapons of the native shikaris until recently were matchlocks, although they are now better armed with cheap guns. These matchlocks have a barrel from six to seven feet long, seldom quite straight, and enormously top-heavy, the stock, disproportionately short, furnished with a shallow pan to contain the priming, which is protected from wet by a sliding lid, plastered with cow-dung; and a rude trigger connected with the cock, to which is attached a hempen cord dipped in saltpetre, completes this primitive weapon. The charge is a handful of coarse gunpowder pounded down by an iron rod and jammed down with a piece of wet cow-dung surmounted by one or two cast or hammered bullets.

With these poor weapons the shikaris lurked in ambush over water or over the carcass of a cow or other animal that had been killed, or overlooking the path of the prowlers of the night, a method that has been adopted by many English hunters with modern accessories such as electric apparatus. That the shikaris in earlier times met with considerable success, is evident when we read that out of a thousand Tigers killed in one district in one year, only some three hundred were shot by Europeans, the shikaris being responsible for the remainder. But my experience in another part of India was that very few were killed by natives; and with their inferior weapons that is not surprising. They would watch over water-holes for deer and other game, their ambush perhaps

decorated with a stuffed monkey-skin for luck, but if a Tiger came down to drink it was generally left to quench its thirst in peace and allowed to depart unmolested.

A Mullah (Moslem priest), a good friend of mine, told me that one moonlight night he was watching over a pool for any game that might come. This was in a cultivated district where there had been no Tigers for many years. But, said the Mullah, in the middle of the night a great Tiger came down and drank within a few feet of the spot where he sat concealed. It was the only one he had ever seen, and he said his "liver turned to water," and he sat still, scarcely daring to breathe until the monster of the night departed. And who shall blame him, for he had only a flint-lock gun loaded with slugs, and a Tiger at such close quarters is a monster indeed.

But he saw this animal a week or two later after I had shot it near the cantonment thirty miles away ; at least it must surely have been the same one and the only one within fifty miles, for it came and laid up in the verandah of an unoccupied house, and was brought to bag after it had mauled one man and killed another ; the Mullah journeyed all the way with many others who poured in from the country-side to view the dead beast. However, the peasantry and herdsmen often show remarkable courage in driving away and even attacking noxious beasts that harry their herds, irrespective of their fearless assistance in driving out dangerous animals for the English hunter. And the native hunter often attacks wild beasts with the poor weapons at his disposal.

In a Malay State in 1898 a Malay killed two Tigers with one shot from a single-barrelled muzzle-loading

gun, charged with a bullet and buckshot and half a handful of black powder. He fired at one feeding on the carcass of a sambar deer, twenty yards off, and when he went up to it he found another one dead close by. Both were killed with a single buckshot through the heart of each. The only other instance of two Tigers being killed with one bullet is that recorded by Captain Forsyth, who fired at one and found that the bullet had killed another, entering the flank after passing through the neck of the first one.

There are many recorded instances of fearlessness shown by herdsmen, and even little herd-boys, in driving Tigers from their flocks, sometimes striking the fearsome beasts with their staves. A herdsman was riding one of his buffaloes (like Mowgli in *The Jungle Book*), a common practice, when he came suddenly on a Tiger. The buffalo shied, and the man fell off and was at once seized by the Tiger, one canine tooth piercing his chest and the other his shoulder blade. But he bravely struck the beast over the head with his stick, and it dropped him ; his call brought the whole herd up ; they charged in a body, and drove it away. The herdsman managed to mount his buffalo again and rode home, where it is to be hoped that he recovered. Such instances could be multiplied, and the Tiger does not always get away, but may be tossed and trampled to death ; many herdsmen have been killed or injured in defending their charges.

A planter related that a villager in Rohilkand was cutting grass on an embankment round a garden when he saw a Tiger lying in a ditch close by. He struck it a blow on the head with his chopper and ran off to the village. Hearing of the incident, the planter rode to the village where 200 or more Rajputs assembled. He

went to the garden with two peons, and found a small field surrounded by cactus prickly pear hedge ; and after a short time one of the peons, a Rohilla, called out : “ Here he is ! ” The planter went to the spot and saw the striped hind-quarters in the middle of the hedge, and fired at it ; it crept farther in. He gave the peon a gun while he reloaded, when out came the beast and took a couple of pounds of flesh out of the Rohilla’s posterior, and then came back towards the planter, who was unable to fire because the other peon got in the way. This man drew his sword and cut at the beast, but the overhanging branch of a tree arrested the blow, and he then thrust his arm into the roaring Tiger’s mouth. The arm was bared to the bone of flesh and muscles, but the peon stood upright, the beast on him, with its hind legs on the ground ; the planter could not fire until he got up into the forked branch of a tree and shot it in the chest, whereupon it retired into the hedge. It was now getting dark ; he carried the wounded men out of the garden, and then went back to fetch the sword which had been left behind. The wounded men were taken to the factory, where the Rohilla recovered, but the other, a Mewati, died. All this brave man said was that he did not mind dying, but was grieved that his sword had failed. Next morning the planter found the Tiger dead not ten yards from the scene of the encounter.

A remarkable episode¹ occurred on the Great Indian Peninsula Railway near Asirgarh fort when two men walking along the permanent way found a Tiger’s tail lying beside the track, evidently cut off by a passing train. They saw part of the Tiger in the grass on the

¹ Related by Mr. Dunbar Brander in the Bombay N. H. S. Journal.

bank, and thought it must be dead, but wisely went to the village to fetch a shikari. The latter fired a shot, whereupon the beast charged and mortally wounded him; a railwayman who was with the party bravely ran in and split its skull with his axe. The animal was found to have been hurt by the train striking its hind-quarters.

In Mysore, the Sundarbans, and other parts of India nets are still used to enclose a Tiger which it is desired to destroy. Each village supplies its quota, and the nets are collected at a spot in the neighbourhood where a buffalo calf, tied up as bait, has been killed. The nets, in lengths of forty feet by twelve in width, are kept in every village in Mysore, and are no doubt used by the inhabitants for snaring other game. They are made of stout rope and have a mesh of about nine inches.

The first nets are fixed in a line below some dense jungle on the side towards which the Tiger is to be driven, so that instead of at once charging the net it is likely to lie up in the thicket before reaching it. Meanwhile other nets have been extended in the more or less open ground on either flank, joining the first line, and when the Tiger is marked down in the thicket, the nets are drawn inwards so that the animal is enclosed on every side in an area about a hundred yards in diameter, the nets being fastened down firmly with strong pegs and roped to trees and branches in such a manner that they incline inwards, where they are supported by poles and trees. The enclosure is made strong enough to resist a charge, and spearmen are posted at intervals round the outside of the enclosure.

A party of men with axes and some with tom-toms and drums and other noisy instruments, supported by



A RIVER TO CROSS

spear-men, then enter the enclosure, and wide paths are cut so that the Tiger may be exposed to view and fire when it moves. Spare nets are taken in to be pegged down in order to reduce the size of the enclosure as opportunity offers. The men advance on the thicket where the Tiger is lying, and raise an uproar together with a deafening noise of the band, while with yells, stink bombs, or fireworks, the beast is driven from one patch to another and shot when it is exposed in crossing one of the cut paths. The danger is not as great as might be expected, for the Tiger will not charge so formidable a body of men; nor does it escape by trying to jump over the net.

There is in an old book an illustration of a Tiger rolling on the ground and plastered as to paws, face, eyes, and head generally with large leaves covered with some sticky substance, usually referred to as bird-lime. This was commonly regarded as imaginary. But it is recorded in the Memoirs of the Mughal Emperor Akbar (*Ain Akbari*), that hay smeared with some such substance was strewn on the ground round the tethered goat serving as bait for the Tiger, whose claws, face, and eyes became clogged with it, and he was found helplessly rolling on the ground, and was then disposed of by spear thrusts or otherwise.

The goat, by the way, had red pepper put into its eyes to make it bleat, just as the shikaris fix either a split coco-nut shell or a fish-hook on a line attached to the ambush, to the goat's ear. It is remarkable that as recently as in 1891 the jungle people in the Chattisgarh Division of the Central Provinces were in the habit of disabling Tigers by laying down leaves smeared with some sticky stuff on the path frequented by them as well as round a kill or near the water-hole. The

Tiger, it was said, annoyed by the leaves sticking to its paws, tried to rub them off on its head. But this only made matters worse, for the leaves stuck to its face in such numbers as to blind it, when the roaring beast, reduced to helplessness, was speared by the villagers with impunity.

Tigers are snared in a variety of traps, the most common being a large cage made of bamboo with an inner compartment in which a goat serves as bait, while a trap-door is so contrived as to fall and shut in the beast when it enters. Leopards caught in this manner used to be let loose for spearing on the Bolarum plain near Secunderabad, and Tigers, brought from Mysore in cages on bullock-carts, were speared on the Bangalore race-course at the beginning of the last century. They are also caught in covered pits, which were employed to destroy the man-eaters at one time infesting the island of Singapore; they are shot by means of spring-guns, and formerly by spring bows and arrows, the barbs being usually poisoned, and the arrow loosed by a string set across the path, so as to release the spring of the bow when the animal is tripped by the line.

Captain Mundy describes a shikari bringing to the Collector of Puri for the Government reward two Tiger skins and several leopard skins, the fruits of five weeks' hunting. He had killed these with a large cross-bow, formed of double bamboo fitted into a solid stock, and furnished with a long arrow or short javelin armed with a barbed point, at the root of which was tied a spongy substance saturated with a poisonous gum. The united strength of the shikari and his assistant barely sufficed to draw the string to the lock: the weapon was laid on the ground, and a cord attached

to the trigger and crossing the supposed path of the Tiger was fastened to a peg firmly fixed in the earth in front of the bow. The arrow when released thus struck the animal with tremendous force, and so virulent was the poison employed, that the wounded Tiger rarely moved a hundred yards from the spot before it dropped and died.

In Mysore five resolute young brothers were in the habit of attacking Tigers when asleep and gorged with food, and destroying them by one determined charge. They advanced in a body, each armed with a long stout spear, and, at a preconcerted signal, plunged their weapons at the same moment into the sleeping brute.

In some parts of India the natives used to poison the kill and so get rid of the beast that devastated their cattle or sometimes preyed upon themselves. The poison was said to be made from berries gathered in the forest and ground to powder, and rubbed into the carcass. The Tiger, after feeding, would be tormented by thirst, and seek the nearest water, near which it would be found dead. A story is told of a Captain Langley who saw a poisoned Tiger come down to drink on the bank of the Narbada River where he was sitting in ambush. Rushing to the river, the beast plunged in and began lapping the water to quench the fire that raged in his poisoned stomach. He then came out and rolled about on the ground before entering the water for a second time.

But now another actor appeared on the scene. Langley was about to shoot when a crocodile suddenly seized the animal in its jaws ; a fearful struggle ensued, the Tiger clasping the crocodile with paws and claws, while his teeth were buried in its head. But the poison was doing its work, and the Tiger would soon have

been dragged down into the depths when Captain Langley ended the encounter by shooting the crocodile with one barrel and the Tiger with the other. I am unable to trace the principal actor in the story, which is well found even if not authentic. An illustration depicts Tiger and reptile in a deadly embrace.¹

That Tigers can be poisoned with strychnine was proved by Sanderson, who related that he was commissioned by the Mysore Government to destroy destructive beasts. He was no doubt too busily employed in elephant-catching operations to give much leisure to shooting, which required the expenditure of much time and trouble. He experimented with strychnine, and made several Tigers ill with the poison, but they recovered. He then discovered a certain method of administering the strychnine in the carcass of a kill, which he wisely does not reveal. But it was so deadly that three were killed with one dose, and he was so disgusted with the result that he did not attempt to use poison again.

It is related in General E. F. Burton's *Reminiscences of Sport in India* that the headman of a village on the Godavery River in three years poisoned fourteen cattle-lifting Tigers by means of strychnine, and in Southern India a professional Tiger-poisoner was employed by Government. This was more than fifty years ago.

The destruction of man-eating animals by any method, including poison, is quite legitimate. But there is much to be said for the protection of at any rate a proportion of the great carnivora, not only for æsthetic but also for economic reasons. Certainly cattle-killers are responsible for much loss, estimated by Captain Forsyth at from £700 to £800 in value annually for each

¹ Greenwood's *Wild Sports of the World*.

Tiger. This is, however, an unreasonably high estimate. It is not probable that even the regular cattle-killers destroy on an average more than fifty to sixty cattle in a year, and these are chiefly animals of small value, amounting at the most to an average of about £1 a head, for many of their victims are worth no more than five or six shillings each.

Tigers addicted to man-eating are rare, and although they kill large numbers of domesticated animals, they kill more game, including deer, nilgai, and pig, which devastate the husbandman's crops in the neighbourhood of forests. This becomes more evident where the great carnivora have been killed off or are not existent, and where, in consequence, there is no natural means of keeping down the numbers of graminivorous wild animals. No doubt conditions have changed in some respects with the relaxation of the rigours of the Arms Act, tending to the destruction of wild life, for ignorant possessors of a gun too often spare neither age, nor sex, nor refrain from shooting in the breeding season.

This in itself has a bad effect especially where the Tiger and the leopard have kept down the game ; for they are generally left alone by the rural possessors of fire-arms, while the animals on which they prey are shot down. The Tigers and leopards are in consequence deprived of their natural prey, and resort all the more to domesticated animals for food, and even turn on man himself. Moreover, in the economy of nature the beasts of prey have their uses. Their first and most certain victims are the weaklings among the wild animals. These, if allowed to survive, would breed after their kind, and the species to which they belong would thus suffer deterioration. Hence the carnivora perform a useful part in the provisions of nature for the

elimination of the unfit and the consequent survival of the fittest. They have no doubt helped in the preservation and evolution of species.

The late Mr. Amir Ali, in a letter to *The Times* of 4th August, 1928, remarked that the ravages of game on crops in India are not nearly so marked as those of monkeys, which are protected both by Hindu religious susceptibilities and by the reluctance of most people to destroy them, and the damage done by domestic cattle in excess of human requirements; and these not confined to jungle areas but common to the whole of India. The same eminent Indian Moslem truly said that the widening of the scope of the Arms Act ordinarily to permit any person or persons having a certain property qualification to possess and use arms has vastly increased the rate of slaughter of game, either by arms-holders themselves or by their employees for profit. As he said: "Game laws and close seasons are set at naught, and local influence or collusion with underpaid forest or other subordinate employees of Government renders detection very unlikely. The destruction is now being widely carried into Government reserved forests, the last refuge of the large game of British India. With the extension of self-government, this destruction will proceed apace."

It has been suggested that habits of man-eating in some cases have been acquired from the animals feeding on dead or dying victims in time of famine or epidemic disease, when people wander into the forests in search of natural produce on which to sustain life, such as various wild fruits and roots and the seed of the bamboo. But it is curious to find this propensity perhaps fostered by a custom for the disposal of the dead. Man-eaters are comparatively rare in Mysore,

but Sir Stuart Fraser was told of a Tiger which attacked parties bearing corpses to the burning ground and carried off the corpse. An Indian official wrote to him that it was the custom among the villagers not to burn or bury the dead bodies of pregnant females, but to expose them in the neighbouring jungles to be eaten by vultures and wild beasts. The body was tied to a tree in a sitting posture and a pot of water placed close by. Some cow-herd boys came across the dead body of a woman tied to a tree as described, and noticed the footprints of a Tiger round it, but the body was untouched. The boys cut the rope binding the body, which fell to the ground, and the next day the corpse was found partly eaten by the Tiger.

This story was related "for what it was worth" by Sir Stuart Fraser in the Journal of the Bombay Natural History Society. It is valuable in relation to the episode of the man-eating Tigress, told in *A Book of Man-eaters*, which would not approach the corpse of a man she had killed and dropped in a sitting position against a high bank. She could not approach from behind, as in the case of the corpse tied to a tree, and she feared to face the victim from the front, because of the staring eyes which looked upon the face of death. Perhaps the same explanation applies to both cases.

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CHAPTER XI

TIGER-HUNTING WITH ELEPHANTS

THE Tiger, as explained in the preceding chapter, has its uses. This does not imply that it should be indiscriminately protected and allowed to increase and multiply without interference. But there should be a reasonable limit to the destruction of the great carnivora. A correspondent of a daily paper, writing recently regarding big game massacres, instanced the evils likely to follow the reduction of game rangers in Africa on retrenchment as fatal to big game protection. No doubt he was dealing mainly with harmless beasts, antelope, elephants, and buffaloes, but carnivora are not excluded. He referred to cinema expeditions, the swooping down of aeroplanes stampeding animals, as well as shooting with the aid of spot-lights from tree shelters, stopped by the Game Warden of Kenya, and dazzle headlights from night-prowling motor cars, when the game stands still, fascinated by the glare.

Some of these methods of hunting have also reached India, and have led to considerable destruction. But happily in that country night-prowling cars are generally confined to roads, where perhaps an occasional Tiger or leopard may be seen and shot, while Indian conditions are not suited to the employment of aeroplanes and do not facilitate the extensive operations of cinema expeditions.

The principal methods of Tiger-hunting adopted in India are—hunting with elephants as in the north, in the great jungles of Nepal and Assam and the sub-Himalayan regions known as the terai ; driving out the game with a line of beaters, the usual method in Central and Southern India ; and sitting up, generally over a kill, to watch for the animal's return, or over a live bait, or water, the sportsman being in ambush on a machan or platform constructed in a tree. Where, as is usual, the Tiger does not arrive until after dark, an electric flash or spotlight is now generally employed, where in days gone by the watcher trusted to the moon and perhaps had an illuminated rib or foresight on his rifle.

In addition, in days gone by, the hunter sometimes had his own or a borrowed elephant, which either walked up the game or was used as a movable post of vantage on which he perched, the Tiger being driven up to him by beaters, just as it is driven up to the sportsman who has no elephant, but hunts on foot, taking up, for the actual drive, a position on a tree, a rock, a bank, or other convenient commanding position.

English sportsmen inherited, with the Indian Empire, the system of Tiger-hunting with elephants which, as described elsewhere, was that employed by the princes and chiefs of India, who used the great beasts not only in war but in sport. It is fitting that the Kings of England, as Emperors of India and heirs of the Mughal Emperors of Delhi, should in this respect have followed in the footsteps of Babar, of Akbar the Great, Jehangir, and Aurangzeb. In the great forests of the Nepal terai this mode of hunting has been carried out in its perfection for the entertainment of three English Princes in succession, who have enjoyed the royal hospitality and the splendid sport afforded by the Maharajas in

whose wonderfully organised hunts as many as 500 elephants have been employed.

It may be thought that hunting with trained elephants is not as sporting as hunting Tigers on foot, for the sportsman in the howdah on the elephant's back is in a safe position, and an accident is almost impossible. But in the sub-Himalayan region in the dense and tangled jungles of the terai and Assam, the forest is so extensive and the undergrowth and elephant grass are so tall that it is only possible to hunt with elephants, some furnished with howdahs on their backs for the accommodation of sportsmen, and beater-elephants backed by pads for forming the line and driving the game from cover.

The howdah elephants must be staunch and steady, and ready to stand the charge of an angry Tiger, for an unsteady elephant not only makes it difficult or almost impossible to shoot, but is dangerous when bolting through the forest, as it may upset the howdah and its occupant. That this form of sport is not always unattended with risk is shown by Captain Forsyth, who described a hunt which he arranged for an eminent personage and his entourage. Shots were flying freely, and not only was the Tiger riddled with bullets but Forsyth afterwards found a bullet embedded in his howdah. Captain Baldwin mentions that a sportsman killed a Tiger and his own elephant with one shot, the Tiger being fixed high up on the elephant's head on to which it had sprung, and the elephant throwing up its head just as the hunter fired.

The difficulty of finding staunch elephants is no doubt greater now than in days gone by, when not only Indian Princes but smaller zemindars or landholders owned many animals, and were often ready to place

them at the disposal of the English sportsman. Moreover, large numbers of elephants were used in the Commissariat and Transport departments of the army, and in heavy batteries of artillery, with the consequence that elephant-catching, as described by Sanderson, was more prevalent, and elephants could be more easily obtained. Fewer elephants are kept now that they are so largely replaced by motor vehicles. Thirty years ago the heavy guns drawn by elephants formed a picturesque feature of the march past of the troops at Secunderabad, and those who have seen them will remember how they raised their trunks in unison to salute the Flag as they drew their guns along the saluting base. Their intelligence is well illustrated by the incident of the gunner who fell off in front of a gun; the wheel was about to pass over his body, but an elephant raised the wheel with his foot, and so saved the man from being crushed to death.

Even in the past, when they were more common, steady shikar animals were most valuable, and good mahouts or drivers were not less essential. For much of the training depended on the mahout. Campbell, the Old Forest Ranger, says in his *Indian Journal* that the best way of training an elephant was to make him stand quietly over the body of the Tiger when it was killed, not letting him touch it, while the mahout encouraged him with his voice, and afterwards rewarded him with balls of sugar dipped in the dead beast's blood. The propensity to charge is the elephant's worst fault, upsetting the sportsman's aim, and if the elephant kneels as he may do at the moment of attack, he may throw the sportsman out of the howdah.

The mahout is most important, guiding and controlling

the elephant by means of the *ankoos*, an iron goad resembling a short boat-hook. He occupies a position of danger on the elephant's neck, and must not only be cool and resolute but well-acquainted with his elephant. These men often show remarkable courage. In one instance a Tigress sprang on to an elephant and struck her claws deep in the calf of the mahout. The brave man uttered no word, but went on driving his elephant as if nothing had happened, until after the Tigress was shot, when he told his master of the accident. He was faint with pain and loss of blood, and so exhausted that two men had to lift him off the elephant; he showed throughout the most remarkable fortitude.

The howdah is of importance, both as to its construction and fitting securely on the elephant's back. It is best with only one compartment to hold a single sportsman, not with a place for a loader or other man at the back, as the sportsman may have to turn round to shoot at a Tiger behind. In an instance described by Captain Forsyth a Tiger seized the elephant's hind leg and worried it so severely that it died, the only instance he knew of a Tiger killing an elephant. A shikari was in the back seat of the howdah, and this no doubt interfered with the sportsman's freedom of action; his arm was powerless, being held between the Tiger's body and the howdah while the beast was trying to pull down the shikari.

The elephant gives warning of the proximity of a Tiger by throwing up his trunk and trumpeting or, as one writer puts it: "An elephant was heard to kick the ground with his fore-foot, followed by the short impatient trump that always tells us his scent is fresh, while other elephants gave signs by trumpeting and banging their trunks on the earth. Then the Tiger saw



BEATER ELEPHANTS

his retreat cut off; there he stood, his head and neck rigid as if one solid mass, his mouth open—a picture of defiance and rage.” The gallant beast was fired at and wounded, but at once charged and was shot within two paces of the elephant, where “he lay, curled up and gasping, while on all sides elephants trumpeted and tried to avoid the sight.” Another Tiger put eleven elephants to flight, cutting two of them, and in the charge mortally wounded a shikari.

In the Royal shoots in Nepal, in which Princes of Wales have taken part, the method has generally been to ring the Tiger, the elephants being in two lines joined at the near end to make a V, the outlet being closed when the game is within the two wings, so that it is ringed; the ring is then gradually drawn in on every side and reduced until the beast is brought to bay and shot. Mr. Ellison¹ gives a graphic account of the first Tiger shot by the Prince of Wales in 1922, in which he refers to “the calm and twilight grandeur of these gigantic forests. Within their depths all is stillness, and no movement is discernible. There is nothing to break the monotonous tread of the elephants save an occasional outburst of drumming from cicadas whose shrill music subsides as quickly as it rises.

“Suddenly there is a stir in the line. All the elephants begin to close up, shoulder to shoulder, and the great beasts stand to form a ring. All is expectancy: there is an outburst of shouting from the beaters: out rushes a deer and escapes terrified into the jungle, to be shortly followed by another and another. Then the real thing happens, and there is a cry of *Bagh! Bagh!* from the beaters. The Tiger at last!

¹ *The Prince of Wales' sport in India.* By Bernard C. Ellison. Heinemann. 1925.

“A glimpse of a yellowish form is seen in the long grass for the space of a few seconds, and is at once lost to view. Once again it is seen behind a tree trunk. Closer advance the beaters, the Tiger charges out, but he is a wary beast. Again and again he is driven out, only to seek cover in the long grass away from the guns. A shikari climbs a tree and pelts him with stones. The manœuvre succeeds, and once again we get a half-length view of the Tiger as he makes a spring at his tormentor in the tree-top. The ring closes in upon him, but with a roar he dives into the long grass ; another roar and he shows himself quite near the Royal howdah. A moment's suspense, and H.R.H. fires. The Prince has hit ! The Tiger, though mortally wounded, has plenty of go in him, and charges to the opposite side, and is buried once more in the heavy cover. The ring closes in : a shot rings out : and the Tiger rolls over dead.”

In beating extensive grass plains, such as those of Assam and parts of Burma, all the elephants are kept in line ; but when driving valleys or dry watercourses at the foot of ranges of hills, one or more guns may be sent ahead to guard gorges or ways of egress through which the tiger might attempt to escape. The elephants to be so posted make a detour to get to their places, to avoid disturbing the intervening jungle, which is then beaten through by the line. It will be understood how useful the great beasts are in passing tangled marshes, or rivers, even where these are wide and deep, for elephants are good swimmers. The Indian elephant swims with his head almost submerged, apparently owing to the weight of his tusks, for the female has her head well up ; the trunk is stretched out in front. It is a curious circumstance that African

tuskers, sometimes at any rate as appears from photographs, swim with their heads and tusks well up out of the water.

It is related in the *Oriental Sporting Magazine* for 1867 that an unwounded Tigress charged several times, and when the grass jungle was fired, she came out like a shot from a catapult and seized the elephant by the right foot. The elephant with a jerk of the leg threw her off ten feet, and she fell on her back, when she was shot through the stomach, and again retreated into the grass. But no sooner had the elephant's head entered the grass, than the Tigress sprang clean off the ground between his tusks, and clinging to the trunk and forehead with her claws, set to work to maul him about the jaw. The elephant dropped on his knees, and began driving his tusks into the soft ground, imagining that he was pounding his enemy; whereas she was quite safe, but punishing him dreadfully. The sportsman was not in a howdah but perched on a heap of grass on a pad, and he now fell off on his back with his face about four feet from the Tigress's rump. However, the beast did not see him, and he managed to back away a hundred yards from the scene of action, having recovered his rifle, which fell with him. The elephant went off, badly mauled, and was laid up for six months, while the mahout who had been shaken from his seat and hung on to the elephant's hind-quarters, was terribly bitten and his foot crushed to pieces, but "he said nothing."

Meanwhile the sportsman got another elephant, but the Tigress charged and mauled it eight times, each time getting another bullet. At dusk she was left victorious on the field of battle, where she was found dead next morning. A gallant beast indeed! How

could Walter Campbell stigmatise the Tiger as "a cowardly, treacherous, and bloodthirsty animal!" That is not the character of the Tiger of my own experience, a brave beast who will fight to the death.

In Central and Southern India good hunting was obtained by sportsmen who owned their own elephants or had the use of Government elephants for the purpose. There certainly seems to be more sport in this method of using a single elephant than in hounding out a Tiger with a great line of animals and pursuing it with a shower of bullets. But in Nepal and the great drives organised with such skill by the late Maharaja of Cooch Behar in extensive forests and grass jungles, and in the churs of the Brahmaputra, the lone hunter would probably be able to accomplish little by the means employed in the south of India. Drives with numerous elephants present a very fine spectacle, with one or more Tigers charging about, and sometimes a number of Tigers have been ringed in one beat conducted in this manner.

Captain Forsyth gives much information regarding the purchase and keeping of elephants in his time, as well as interesting descriptions of Tiger-hunting by the methods employed in Central India. Elephants were valuable animals, a first-rate shooting one costing from £200 to £400 and £80 to £90 a year to keep. But in his day the Government had great numbers of first-rate shooting elephants, many of them trained, and there was seldom much difficulty in obtaining the use of one, while they might frequently be borrowed from wealthy Indian gentlemen.

Forsyth's system of hunting was to follow and shoot the Tiger in his midday retreat, and he wrote that "no sort of hunting requires more careful arrangements,

greater knowledge of the habits of the animal, perseverance, and good shooting, than the pursuit by a single sportsman with a single elephant." But it must be said that the exertion and skill and knowledge and nerve required by the lone hunter who does his own hunting and in the last resort follows up the wounded Tiger on foot, are incomparably greater than the requirements from the man on elephant-back. Baldwin says that a sportsman on the back of a steady elephant is perfectly safe, and that he never heard of a Tiger succeeding in taking a man out of a howdah. A very moderate shot, he says, mounted on a staunch elephant, may kill his half-dozen in a single month, without incurring the slightest risk or danger in accomplishing such a feat.

Forsyth tells us that he bagged six Tigers at the end of April and in May one year and lost two wounded, shooting with an elephant, and he is inclined to depreciate the methods of the hunter who has no elephant and who, while shooting from a tree, a rock, or other point of vantage or concealment, has to follow up wounded animals on foot, with infinite danger to himself; and he implies that wounded Tigers are often not followed up. I have myself shot many Tigers in the Deccan without the use of elephants, including on one expedition nine Tigers in the first three weeks, and have had no man wounded, and lost no wounded Tigers on these expeditions. All wounded animals have been walked up and killed.

Forsyth's own mahout was exposed to danger, as all mahouts are, and he employed pad-elephants with men on them, who were also exposed. He relates how on one occasion "the elephant-boy whose business it was to stand behind the howdah and, if necessary,

keep the elephant straight in a charge by applying a stick over his rump, had a narrow escape, having dropped off in his fright almost into the jaws of the Tiger." In fact, in hunting Tigers by any method there must be danger to someone, and surely the chief danger should be incurred by the hunter and not by unarmed men.

Hunting on foot calls for the greatest exertion, while the sportsman hunting with elephants is conveyed everywhere on the back of his mount, and depends as much on his elephant and his mahout as on his own qualities, and in following up a wounded animal there is no comparison between the man on elephant-back and the one on foot, who has to exercise all knowledge of the Tiger's habits, and all his nerve.

However, hunting with an elephant must be fine sport, in the pleasure of witnessing the sagacity of the elephant and the skill of the mahout. Nor is danger always entirely eliminated. Baldwin saw the barrels of a rifle belonging to General V. at Gowhatty deeply indented by a Tiger's teeth. "The Tiger, in spite of being wounded, made good his charge on the General's elephant. The old gentleman, having fired 'every shot in the locker,' had to hold his rifle barrels across his assailant's jaws to prevent the brute from seizing him and dragging him from his howdah, until a brother sportsman came up alongside and knocked the Tiger off with a ball through the body."

Those who want to know all about elephants should read the work of the greatest expert, G. P. Sanderson, whose book is a classic on the subject. While he says female elephants are more commonly used than males for Tiger-shooting, being more easily procurable, a well-trained male elephant is infinitely superior to any

female, from his greater courage and strength. But the male has a dangerous habit of attacking the Tiger when he sees him. He instances an episode in which a lady and her husband were at a hunt when a Tigress charged across the open ground on which they were stationed, and their elephant, in this case a female, rushed to meet the charge, more from excitement and terror than courage. The man shot the Tigress, and the elephant was pulled or fell on to her, one of her hind legs being seized with teeth and claws. Both the occupants of the howdah were thrown out, the rifle going off in the fall, but neither was injured; the Tigress was crushed to death under the elephant.

General E. F. Burton kept his own elephant for Tiger-hunting for some years. This was a staunch female, although after it passed out of his possession it was spoilt for sport by being mauled by a Tiger. In his *Reminiscences of Sport in India* he gives detailed accounts of the manner in which he carried out his hunting, generally employing beaters to drive out the Tiger, and taking post on his elephant at a suitable spot. The elephant is useful not merely for actual hunting, but for carrying home the game; he mentions that he shot one morning a leopard, a bear, and a nilgai, which furnished a very fair elephant-load.

Tigers appear to be more active and better jumpers than lions, but it is seldom that an animal leaps clean off the ground, although this sometimes occurs in an attack on an elephant. On the only occasion on which I have seen an elephant used in hunting, a Tigress had been wounded the evening before, having the fore-leg smashed near the shoulder. In the morning the trail was taken up on foot, and followed to dense cover which the Tigress had entered after lying down under

a tree, where there was a pool of blood and a piece of bone that had worked out of the wound. The pad-elephant was sent round to the far side of the cover with a man on its back to throw stones into the bushes. The Tigress charged out, and leapt on to the upper part of the elephant's trunk, but dropped off almost immediately, the broken bone no doubt preventing any prolonged clinging. The elephant then bolted; the Tigress, roaring after her, sprang on to her quarters, inflicted some scratches, and then dropped or was kicked off and shot. The whole episode occupied only a few moments, and the action was so rapid that at this distance of time, forty-two years afterwards, it is not possible to say whether the Tigress's hind legs left the ground when she jumped. The elephant continued her flight, screaming and trumpeting, and did not stop until she reached the camp some miles off. She was not severely hurt.

CHAPTER XII

TIGER-HUNTING ON FOOT

WHAT is commonly known as "Tiger-hunting on foot," without the use of elephants, is not all done on foot. It is the system generally adopted in Central and Southern India, where elephants are not available, and where the nature of the country renders it possible to hunt without their aid, an impossibility in the dense jungles of the sub-Himalayan region already described. The sportsman generally has a pony or two to carry him from place to place. In bygone days he may have had to ride seventy or eighty miles out to his camp at the beginning of an expedition. No doubt this journey is nowadays done more easily in a motor car. But my own experience is that the actual hunting, the collection of information, looking for tracks, following them up, visiting water-holes, selecting spots in which to picket buffalo calves for bait, inspecting baits and kills, and finally in arranging the beat, and following up the wounded beast, nearly all the work is done on foot. In all these things is the essence of sport.

Certainly most Tigers are shot from a tree, a rock, or bank, or some such point of vantage. This is generally done not merely for personal safety, but because if the hunter remains on level ground he will no doubt lose many chances when the game is driven towards him. The Tiger does not look up, and is therefore unaware

of danger in trees. But, though slow to perceive a motionless object, or at least to distinguish its nature, he is quick to see the slightest movement within his range of vision. The motion of raising the rifle to the shoulder will catch his eye, and cause him to gallop off and perhaps get away without offering a shot. If the sportsman does stand on level ground, behind a tree or a bamboo clump or a bush, as may sometimes be convenient, the shot should not be taken until the Tiger is abreast and passing. He will seldom turn to the shot, but if not killed on the spot will gallop on straight in the direction he was taking when the shot was fired. If the shot is taken too soon, he may turn in the direction of the unarmed beaters.

Even when the sportsman shoots from a tree, however carefully he may try to place his shot, he cannot always disable the Tiger at once; difficult shots at an animal galloping among trees have sometimes to be taken. The wounded animal has then to be followed up, and that provides quite enough danger in shooting on foot. After all, the shot itself, although the climax of the enterprise, is the smallest part of the "hunting," which involves a knowledge of woodcraft and of the character and habits of the game, and being carried out on foot as already explained it involves the most strenuous exertion, as well as occasional situations of danger. The sport is therefore fairly called "hunting on foot." There is no "safety first" in Tiger-hunting; the first and sole object, not neglecting due precautions, is to bring the game to bag.

Captain Forsyth, who always hunted on elephant-back, and being in the Government Forest Department had elephants at his disposal as well as many other advantages, wrote that in hunting on foot the only

danger is in following up the wounded animal, and said that many more Tigers are wounded than are finally secured. It has been shown in the previous chapter that hunting on elephant-back involves little or no danger, even when following a wounded animal. Forsyth probably had not much experience of hunting on foot, or else in his day the sport was not carried out as it was in the Deccan thirty or forty years later.

Perhaps he had heard or was thinking of Rice who, in his book on *Tiger-shooting in India*, records the bag made by himself and friends during five years as 98 Tigers, including 30 wounded and not brought to bag. Judging from his descriptions and his illustrations, Rice certainly seems to have done much of his hunting, including the shooting part of it, on foot. The illustrations show few trees, but the country, mainly in Rajputana, was characterised by rocky hills and ravines which offered many points of vantage. He generally shot with one or more companions, and there is sometimes safety in numbers, although there may also be danger, for the solitary hunter is dependent on himself and is not liable to be "let in" by incompetent comrades. One of Rice's illustrations shows him and three friends standing shoulder to shoulder as though about to receive a charge of cavalry. On the ground beside them is an armoury of weapons, two to each of the rank and file, in addition to the rifle each one is holding at the "Ready." The four forming the platoon are standing on a bank above a Tiger which is charging past them. Another illustration depicts Rice and a companion at the head of a solid body of men armed with guns, pistols, slings, swords, spears, tom-toms and drums, advancing on a wounded Tiger lying under a bush.

The evil of Rice's hunting is that in his bag are included the 30 wounded which were not recovered. He does not tell us what "bag" was made by the wounded beasts, wandering sore and furious about the country, and ready to kill any human being or other creature that came near them. Certainly weapons were inferior in those days, but even so the wounded bear a very large proportion to the killed. Rice also made a "bag" of 51 bears, but of these 26 were wounded and lost; a wounded bear is a nasty customer for an unarmed man to encounter, even if it does not, like the Tiger, become a terror to the countryside. He recounts how he and a friend "rolled a bear over and broke his forearm, but he escaped, for we did not attempt to follow up his blood of which a good quantity had been spilt."

The transport and equipment of the camp are dealt with in another chapter. We are here concerned only with the hunt itself. The selection of shikaris and other followers is most important. For these the hunter from outside will have to depend on the provision made for him by others; with no knowledge of the language of the people it will be impossible for him to man and organise a camp without the willing assistance of the local authorities, or of a friend experienced in these things. It may be said that the type of the shikari who haunts cantonments is to be avoided, but the lone hunter without knowledge of the language and people will be obliged to have one or more English-speaking followers, who will more likely be a butler or bearer. However, with no knowledge of recent and present conditions it is not proposed to give advice which may be obsolete.

While the hunter is necessarily largely dependent

on local shikaris, at least until he has had some experience and acquaintance with the part of the country concerned, he should in any case maintain control, and consequently absorb all possible information regarding the people and resources, as well as the game and its habits, of the country over which he proposes to range. Experience acquired from books will be corrected and augmented by practice. It is especially essential that he should retain in his own hands all payments for supplies and services ; otherwise there is no security that the people generally and the beaters in particular will receive their dues in full.

My own plan was to send a trustworthy man on ahead to prepare the way a month or so before starting on an expedition. He would traverse as much of the country as possible, getting to know the inhabitants, and the comings and goings of all Tigers of which he could get information. This service required great tact as well as honesty of purpose and dealing. My own emissary was a police constable of rare qualities, who, however, did not travel in his official capacity. He would have a rough map of the country to be explored, on which he marked the names of places and the presence of the game, and would return a few days before the expedition started, bringing with him the information gathered, on which much depended. But in those days of thirty to forty years ago, and in the country over which I shot, access was more free and conditions were very different from those of to-day. I will therefore say no more on this part of the subject, but proceed at once with some account of the method of marking down the game and organising the beat.

It must be remembered that, although the Tigers are

alike in general characteristics, individuals differ in character and habits. One may be bold and fearless, addicted to preying on cattle in the neighbourhood of villages; another may depend mainly on the wild animals in the forest he inhabits. Some possess more courage, and are not easily driven from the cattle they attack, while others may retreat before the shouts and presence of a boy cowherd. Some will lie in a pool of water, others in shady tamarisk and jaman covers, or even under a tree in the open, although all alike are averse from exposure to the sun in the hot weather, between March and May, when hunting is generally carried out. While one may confine his operations to a comparatively small area, another will wander far and wide, but this is probably connected with the distribution of animals for food, and their abundance or scarcity.

I have observed that many Tigers make a regular round, sometimes visiting particular pools at intervals of three or four days. I have shot many inhabiting one valley, or a connected area of valleys and ravines. I recollect one Tigress that used each night to kill one of my buffaloes picketed at a particular pool of water; and although there was a cane-brake, and shady bushes close by, she always made off to some distant haunt to which tracking was precluded by the hardness of the ground. After several blank beats, I started early one morning for the place, where a buffalo had again been picketed for her; on approaching within a hundred yards or so I took off my boots, and just as the sun was rising stalked to within twenty yards of the spot, and shot her as she lay beside the body of her victim. Another Tigress was so cunning that even this method failed. She killed several buffaloes, but

the stalk at dawn was fruitless ; for she departed before there was any light of day.

My campaign used generally to begin on the morning after my arrival in camp, although on one occasion after a ride of 63 miles, I went 5 or 6 miles on foot in pursuit of a bear. Taking four or five calves, we would start at daybreak, and follow where possible the tracks on the paths within a range of 6 or 7 miles, visiting water-holes and observing where the game had been down to drink. The tracks were carefully measured with dry grass-stalks, and by the difference in size of their footprints the number of Tigers in a neighbourhood could usually be ascertained in the course of a few days. The Tiger's tracks could be distinguished from the Tigress's by their rounder shape, the female having a more oval form. The buffalo calves were picketed by a foreleg to a convenient tree or sapling, a strong rope being used. Always a spot near water was selected, where there was suitable cover close by for the shade-loving Tiger, the object being to detain the beast on the spot after he had killed and eaten his fill. Otherwise he might go off to a distance instead of lying up near the victim.

After the calf was picketed, a place was selected at a distance from whence it could be viewed in the morning. This was generally a convenient tree, far enough off to ensure that the Tiger should not be disturbed by the man who inspected the kill. Then the surrounding ground was examined with a view to the organisation of the beat if a kill took place during the night. The general direction of the prospective beat was fixed upon, as well as the position for the gun, it being borne in mind that the animal should be driven in the direction it would naturally take, and

not towards open ground, which it would not face. The process was repeated until all the buffaloes taken had been picketed. The whole undertaking might involve a tramp of anything from ten to twenty miles.

Next morning the baits were inspected, some by myself, but the work was divided among trustworthy men in order to save time. If a kill had taken place, news was at once sent back to camp, and beaters were collected in the neighbourhood and assembled as already arranged for. In inspecting the kill, a sharp look-out must be kept in case the Tiger is on the move. Indications of his presence may be observed from a distance, in the shape of vultures or a crow or two cawing in the adjacent trees. The inspection must not be made until the sun is well up, for the Tiger has a habit of walking about in the vicinity of his prey until the heat of the sun sends him into the shade for the day's siesta. It is sometimes difficult to see whether the buffalo is dead or sleeping, although often the rope is broken and the kill dragged into cover, which leaves no room for doubt. An inspection of the recumbent form through binoculars will generally enable one to determine whether the sleep is the sleep of death. If the animal is alive, the tail or the ears will usually be seen moving to flick away the flies. If the calf is alive and untouched, it should be released for watering at the pool, and fresh grass should be cut to replace that supplied in the first instance. It is then again tied up to resume its vigil.

The whole process sounds cruel, and I was never able to get over my repugnance to leaving the unfortunate creature to its prospective fate. But it is the only method by which the Tigers can be marked down,

although occasionally one might find a "natural" kill, a deer, antelope or pig, its presence revealed by vultures circling in the air or settled in the surrounding trees. So long as the Tiger is near the kill, these scavengers will not descend, although I did once find the corpse of a vulture which had paid for its temerity with its life. However, one buffalo dies to save the lives of many cattle; it is a phlegmatic creature, and appears to suffer little. It is probably in general unaware of its fate until the instant of death, for it is the nature of the Tiger to approach by stealth; and the victim suffers so little from fear, that one surviving the attack has been known, on getting up after being struck to the earth, to start feeding again immediately, and continue chewing the cud although sorely wounded.

On my first expedition, when there was everything to learn, my operations were limited in extent, and although a bag of half a dozen Tigers rewarded my efforts, more than double that number were shot in some subsequent expeditions of six weeks' duration. For I was more experienced and took more men with me, and two or three ponies, and placed pickets out for tying up calves up to a distance of ten miles from camp, each with a mounted man to bring in news, and another man to collect beaters on the spot. Each day I would myself visit one or more of these posts, inspect the picketed animals, and make any further arrangements necessary, returning to camp, if the picket visited had no kill to report, in time to receive news from other quarters. By this means a large extent of country was covered, and sometimes a Tiger would be killed in one direction, and another ten miles off in another on the same day.

We will now suppose a kill to have taken place, and

beaters assembled at the camp, or in the neighbourhood of the prospective hunt. The number required depends on the nature of the ground. I have beaten out and shot not only single Tigers, but a pair killed with a right and left with no more than twenty beaters. On other occasions over a hundred men have been employed. It is better to have too many than too few. On arrival within a convenient distance of the ground, a halt is called and the stops are selected and placed in a separate section. These should consist of trustworthy men, not always easy to obtain, and will generally include a number of the camp-followers ; some of my best stops have been cartmen and horse-keepers. The local shikaris will know which villagers can be trusted to do the right thing at the right moment. The number of stops depends on the men available and the nature of the ground. They are posted in trees on the flanks of the beat, and at places where there is a possibility of the Tiger trying to break out, such as watercourses or nullahs ; their duty is to turn back the beast if such an attempt to break out is made. This may usually be done by making the slightest noise, breaking a dry stick, or coughing, although sometimes a Tiger will remain roaring at the stop, but too timid to make a rush past him, and the stop may have to shout back at the beast. If there is a shortage of beaters, the place of some stops has to be taken by cloths hung on the bushes ; a Tiger will sometimes come along angrily and pull these down one after another with a stroke of his paw.

The general conduct of the beat and the positions of stops will have been arranged when the buffaloes were picketed. The sportsman, with the head shikari and others, will now proceed with the stops along the flank of the beat, leaving the body of beaters under

charge of a trustworthy man. Skirting the flank at such a distance from the kill as to avoid disturbing the game, the sportsman and shikari will post the stops to the apex of the beat, perhaps 400 or 500 yards from the kill, and select the position for the gun. Here the sportsman may now take up his position, whether in a tree or other point of vantage, to cover the line which his knowledge of the animal's habits tells him the Tiger is most likely to take. This will be done in consultation with the shikari, who should, indeed, be consulted on all occasions so that he may retain confidence and self-respect. The shikari, when he has seen the gun placed, may be left to post the stops on the other flank, and after this is completed he will join the body of beaters. The beaters are now extended so that the wings are in touch with the flanking line of stops on either side. The line should be stiffened by shikaris and camp-followers such as sepoys or other trustworthy men. It is only fair to the beaters, and will give them confidence, if an armed man accompanies the beat as some protection from a charge. I always appointed a sepoy with a gun loaded with ball for this purpose, and only on one occasion had the gun to be used to deal with a Tiger charging back on the line of beaters.

The sportsman must be on the alert from the moment he has taken his place ; it is possible that the game may be disturbed, and appear before the beat begins. He should see that his rifle is properly loaded, and that spare cartridges are handy. These may seem superfluous details to mention here, but such details have before now been forgotten. He will have his water-bottle with him, for the heat of the sun and the excitement of the chase are likely to induce a burning thirst. He must steady his nerves ; even now, forty years

after, my heart beats faster with the remembrance of those moments of anticipation, awaiting the first shout of the beaters, looking and listening for a heavy footfall on the dry leaves that strew the ground, the panting of the great beast, oppressed with the torrid heat, with slaving tongue hanging from the mighty jaws.

Comparatively silent beats are sometimes favoured, the people walking quietly along and making no other sound than perhaps an occasional shout, and tapping the trees with their sticks. But generally this is inadvisable ; the Tiger is fast asleep in the heat of the day ; it requires considerable noise to rouse him from his lair. He will not usually gallop, even when the sound of human voices is augmented by wooden bird-scares twirled in the hand, and stones shaken in tins, and beat of drums. There are occasions when the Tiger is known to be alert, and on this point the law need not be laid down. But the safety of the beaters must be considered, and a slumbering beast suddenly aroused at close quarters is apt to be dangerous. Ordinarily the driven Tiger is more frightened than angry.

When the Tiger comes into view, the sportsman must be careful in his choice of the moment to shoot as well as in his aim. To fire too soon may be to send a wounded animal back among the beaters ; to wait too long may be to lose a chance. There must be no movement until the rifle is raised to the shoulder, deliberately and not with a quick movement that may catch the eye. Every precaution should be taken ; the clink of a ring on the barrels may be heard, the glint of the sun on bright metal may be seen. It is well to blacken the muzzle of the rifle beforehand with a burning match. A shot behind the shoulder, between



THE TIGER AT HOME

the shoulders, in the neck, or almost anywhere in the fore part of the body is generally mortal with an efficient rifle. The head shot is not advisable ; the brain is small, and a shot elsewhere in the head may not disable. If the Tiger is not killed on the spot, the sportsman should sound his whistle according to a prearranged signal, so that the beaters may climb trees. If the Tiger is wounded and disappears, careful note of the direction taken should be made, and the beast kept in sight as long as possible ; it is not difficult to kill with a well-placed shot, but such a shot may not always be possible.

The wounded Tiger will probably have gone on ahead past the gun, but wherever it may be, the first consideration is the safety of unarmed men. This having been arranged, the beaters assembled in a safe position, or told to remain in the trees if the beast is at hand, the sportsman, with such men as he can trust with a spare rifle and guns, proceeds to follow up the wounded animal. Various methods have been recommended. The first essential is to bring the game to bag, and to avoid accident as far as possible in the process. It is in any case a dangerous operation. A few men may accompany the party and, covered by the guns, climb at intervals trees from which observation of the ground ahead can be made. But the reports of these men must not be too surely relied upon ; they are apt to see the Tiger in every bush. I have myself always preferred to take no unarmed men with me. The first thing for the sportsman to see to is that his rifle is loaded and cocked, or if hammerless the safety catch put at the ready. This may seem superfluous advice, but I have known a sportsman to be killed by a wounded Tigress because he had neglected it ; when

the animal charged, the breech contained only the empty shells of fired cartridges.

The use of a herd of tame buffaloes has often been recommended for driving out or locating the wounded animal. I have once tried this in the case of a panther, but the buffaloes took no notice of the beast, which was lying dead. Buffaloes are not always procurable ; there may be much delay and danger to the herdsman if the Tiger charges over the backs of his animals. It is perhaps wise to give time for the wounded animal to die, or for its wounds to stiffen. Some of us are probably too impatient to prolong this period for more than half an hour or so, or to do anything but take up the pursuit at once. The eyes must be kept not on the trail or tracks, but on the cover ahead where the beast is likely to lie concealed ; every sense must be on the alert, and it is essential to concentrate attention on the business and be ready for immediate action.

If the Tiger charges, as it will in most cases if still possessing the ability to do so, do not fire too soon ; that is, if the charge is from a distance, wait to make sure of the shot. A well-placed shot at close quarters will settle the matter ; a shot fired at twenty or thirty yards may fail, and leave an empty barrel and one chance the less. The advice is easy to give ; it is difficult to follow. The natural impulse is to shoot at once ; a charging and furious monster emitting terrific roars is likely to disturb the equanimity of the boldest heart. But life may depend on a cool nerve and a steady hand.

It is often said that a leopard is more dangerous than a Tiger. Either animal will usually charge home when wounded. The leopard can hide itself in a smaller space ; in fact it takes cover in a slight depression of

the ground or in a bush or patch of grass that would scarcely be expected to conceal a hare. The teeth and claws of both animals inflict wounds that are likely to cause blood-poisoning, being infected with putrid animal matter. But the Tiger is of such immense weight and bulk, and possesses such terrible armature of teeth and claws that the wounds it inflicts are likely to prove immediately or rapidly fatal, a result that seldom follows at once from an encounter with the smaller animal. It has been said in another chapter that surgical necessities for the treatment of wounds should form part of the equipment. Surgical knowledge should also be acquired before the start of the expedition. Wounds inflicted by carnivorous animals, however slight, must be regarded as serious. A slight bite or the scratch of a claw may, if neglected, prove fatal, and there have been innumerable fatal accidents recorded in annals of Indian sport.

In Khandesh a Tiger dreadfully mauled one of a party of officers who had gone after him on foot, and he killed on the spot a Bhil who was with them. Next year this same Tiger, which had probably been wounded, and was well-known and feared in the neighbourhood, killed two or three men; he was said never to move off on the approach of men, but to growl and attack if this warning was not taken. A Bhil shikari while trailing him looked into a bush, when the beast rushed out and seized him by the shoulder, in an instant crushing the bones to pieces. In Dharwar, a wounded Tiger was making off when it perceived a man standing in a field. It rushed upon him and seized him, mauling him so that he presented a frightful spectacle. His lower jaw was carried away as if he had been struck by a cannon-ball; his cheek-bones were

crushed to pieces, and the lacerated muscles of the throat hung down over his chest. So dreadful was the injury that nothing was left of the face below the eyes. He appeared quite sensible and made frantic signs for water, whilst his bloodshot eyes rolling wildly imparted to the shattered head the most ghastly expression. It was impossible to afford him the slightest relief, and death soon put an end to his sufferings.

In another instance a man entered a thicket and climbed a low branch to get a view of a wounded Tiger, of whose presence he was at once assured by a loud roar, and in an instant he was in the beast's grip, the Tiger worrying and biting him in a frightful manner. But very often both Tigers and leopards will drop the victim instantly after seizing with claws and inflicting a bite, as I have seen and felt from my own experience when mauled by one of the latter animals, and from seeing several people similarly treated.

An officer who was mauled near Surat must have possessed a stout heart. He described how he was charged by a wounded Tiger which clawed his neck and shoulders and bit his face and neck, one canine tooth penetrating his cheek into his mouth ; it then attacked his companion, and mortally wounded their shikari. Finally, after one of them had stabbed it many times with a knife, the other killed it with three shots from his pistol. He " did not know whether his wounds were very dangerous, so before they became stiff he started and rode 24 miles to Surat." He was very weak from loss of blood, but " a glass of sherry cocked his tail again " !

Wounded and even dead Tigers should be approached with caution. A Madras sepoy was killed while measuring one supposed to be dead ; it suddenly

struck at him and fractured his skull with one blow of the mighty paw. An officer of the Madras Army was struck dead in similar circumstances by a dying beast. A young man was crippled for life after his father, firing from a tree, had wounded a Tiger which fell apparently dead. The young man jumped down and applied a match to its whiskers, when the beast turned on him, seized him by the thigh, and held him until its grasp relaxed in death.

It is curious to find a sportsman writing in the Bombay Natural History Society's Journal that he would never go out Tiger-hunting without an elephant if he could possibly help it, and that "there is nothing grander than following up a wounded Tiger on a staunch elephant. From a position of perfect safety you are able to behold all the grandeur of the charge of an infuriated Tiger, and to have all the fun of the sport without the danger of it." But he was a fine sportsman, and would surely have recognised that sport is diminished if all danger is eliminated!

Moreover, there is danger to the elephant and the unarmed mahout. There is no greater danger than following up a wounded Tiger on foot; it far exceeds Jorrock's "spirit of war with only five per cent of its dangers"; but there is no more satisfactory ending to a hunt than when the game is brought to bag after the charge accompanied by the "soul-stirring growl."

In one unhappy case forty years ago Colonel Hutchinson with the Rev. E. J. Bowen was charged by a wounded Tiger from a distance of thirty yards. There were four guns in line at intervals of two or three yards. Seven barrels were discharged at the charging animal, one by Hutchinson as it was about to attack Bowen, but it turned on Hutchinson and had seized or was seizing

him when his companion fired at it from three feet off. However, the Tiger shook and mauled him, and carried him off ten yards before being killed. The beaters had all been sent back, as they should be in the first instance, although some favour the method adopted by Rice, and depicted by him as already described. His graphic description is worth quoting, for his book is rarely to be seen.

“A procession is formed as follows. In front, stooping down between us (himself and a companion), is our head shikari, or chief huntsman, who, by carefully observing each footprint or slightest drop of blood, points out the direction in which the wounded game has gone. Keeping guard over him with full cocked rifles, we head the wedge-shaped procession. Immediately behind us follow our best or steadiest men bearing the spare loaded guns. Next comes the band, which consists of four or five kettledrums and one big drum, a man ringing a tremendous bell (novel method of ‘belling the cat’) with perhaps others, either blowing a large brass horn, or beating cymbals, besides two of our men constantly loading and firing blank shots from a pair of old horse-pistols. At either side of these are some men armed with drawn swords and two halberds, or most formidable-looking spears, which serve to keep the beaters together in passing through thick grass or high reeds, for all can see their broad, sharp glittering points. Last of all come a number of men engaged in constantly slinging and throwing large stones. . . . Overlooking all is a man up a tree, which he climbs from time to time as we pass them, keeping a good lookout on all sides. The whole party, a compact body, keep close together, move at a snail’s pace, yell with their utmost power, and create what is really a most

infernal din." It is easy to believe that, as he says, no Tiger will face such a mass of men and noise as this. I have never tried it. But it seems possible that the method may account for the loss of some of the thirty wounded Tigers included in Rice's "bag." Pursued by such an array of people and noise, the animal, unless disabled, would be likely to keep on walking; blood might cease to flow; on hard ground no tracks would be visible; and all traces may be lost.

CHAPTER XIII

VARIOUS EPISODES

WHILE I have shot no Tigers by methods other than those already described, in some districts the difficulty or expense of obtaining beaters may be found prohibitive for some sportsmen. The cost of beaters has risen in these times. They should in any case be generously dealt with. People who undertake to drive the beast from his lair, armed only with a stick or an axe, deserve due reward. Personally I recall these simple peasants and my shikaris and other followers with admiration and grateful remembrance. Forty years ago fourpence was considered full payment for a day's work in the Deccan. My own practice was to pay more for a specially difficult, laborious, or successful day, such as an occasion on which a brace of Tigers were killed. The reward might amount to a double wage, and was certainly well earned. However, the sportsman may be of appreciable benefit to the inhabitants, apart from the destruction of the wild beasts that prey on their cattle, and sometimes on themselves. He brings a considerable amount of money into the district, and so performs a useful service, particularly in times of famine and scarcity, when the people are not only glad to receive their extra earnings, but these save many from starvation and suffering. Sometimes they

are taken from work in their fields, when they deserve compensation for their loss of time.

Besides beating, there is the method known as "sitting-up." The same plan of picketing out young buffaloes as bait is adopted, and the sportsman waits in ambush for the return of the Tiger to resume his feast in the evening or during the night. But the buffalo must be picketed very securely with a wire rope so strong that it cannot be broken and the kill dragged away from the vicinity of the tree in which the ambush is constructed. Cover for the Tiger to lie up in after it has killed should not be near the kill; otherwise it will be disturbed when the ambush is put up, and will probably not return. Sometimes, when the kill is a "natural" one, there may be no tree conveniently near. The carcass may then be dragged to the required spot.

The ambush consists of a strong platform or machan constructed in a tree overlooking the kill. There is a screen of leafy branches to conceal the watcher, with an aperture to shoot through. Perfect stillness is essential; leaves dry rapidly in hot weather, and should not be so dry as to crackle with the slightest movement. The position should be taken up long before sunset, for the Tiger may put in an early appearance, although more commonly it will not come until after dark. In former times this plan of "sitting up" was only adopted on moonlight nights, but now electric spotlights are used. These not only expose the animal to the shot, but the Tiger is dazed and easily killed at a few yards' distance.

The method is deprecated by some as not giving the animal a fair chance, and many find it repugnant to their ideas of sport. Rice termed it "the mean trick

of watching for the Tiger at night." But it must be said that during the hours of daylight or by moonlight it is interesting to sit in concealment and observe the sights and sounds of the forest ; while if the Tiger approaches before it is dark, it must be of great interest to watch his method of coming up to the kill. It is a matter of taste and opinion.

Colonel R. W. Burton gives an interesting account¹ of his observations when sitting over live calves in a jungle in the Central Provinces in 1929. The first occasion was the killing of a tethered buffalo on a night when the moon was nearly at the full. The near approach of the Tigress was made known to him at ten o'clock by the sudden uprising of the buffalo from his quiet chewing of the cud. He stared into the forest. Then the tread of the Tigress, who had given up all concealment as she knew that her prey could not now escape her, was heard among the leaves. Her head came into the field of view of the binoculars, her fine ruff shining conspicuously in the brilliant rays of the moon. He could see every whisker and hair on her face.

"Slowly the whole of her lithe but massive form came into view, advancing by short steps, with every muscle taut and alert for instant action. The tethered bait, which up to now had remained motionless, staring at the dread apparition, made a sudden effort to break loose. This was the signal which launched the Tigress to the attack. There was a short scuffle, a choked bellow, and then absolute silence as the Tigress stood, the back of the buffalo's neck in her jaws. All but her head was in the shadow of the tree, but I could make out that she was straddled across the body of the buffalo.

¹ Journal of the Bombay Natural History Society, Vol. XXXIII.

“What she did with her paws could not be made out ; there was no apparent movement, but presently I heard the crack, and the crack of the breaking of the vertebræ of the victim’s neck. Now, the killing finished, the Tigress opened her jaws and the lifeless body of the victim fell with a helpless flop on to the ground. A few moments she stood, wholly alert to her surroundings and gazing this way and that. Then she seized the body by the hindquarters to drag it away ; after several tremendous tugs she gave up the attempt, and, squatting at the tail end of the carcass, now stretched to the full length of the wire tethering rope, began to tear it open. This took but a second or two, and with great gulps she began the hot meal she had so easily obtained.

“In ten minutes she suddenly got up and went straight off into the forest behind her. She appeared drunk with her success or the rich wine of her dinner, for she made no attempt at quiet progress, barging through the jungle with a crashing of undergrowth and leaves. All sorts of noises she made ; gruntings, belchings, and noises difficult to describe. The sound of her noisy progress died away and all was again quiet, the absolute stillness of the tropic night in the forest. There had been at no time—not even before her approach to the buffalo—any indication on the part of the numerous denizens of the jungle that the Tigress was on the move ; and there was a similar silence on her departure.

“It was six hours before she returned, which she did in absolute silence and without any forest warnings. Down she sat and recommenced her meal. I turned on the distant light, which was directly over her head. Of this she took no notice ; but when, her exact

position clearly ascertained, the torch fixed on the rifle was flashed in her face she lifted her head, her eyes shining like emerald lamps. Next moment she was dead; and the loud sigh of the breath leaving her body came to my ears in the stillness of the night as the reverberations of the rifle-shot died away in the distance.

“A few weeks later a Tiger met instantaneous death in the act of killing a tethered bait. There was no moon; he was a most wary and cunning beast, and to have put on the distant light when the scuffle began might have scared him away. I could take no chances. The torch showed him standing by the side of the buffalo with the back of its neck in his jaws. He was facing away from me. To the shot he fell on his side; and so instantaneous was his death that the claws of his left forepaw remained hooked into the right cheek of the buffalo, and the victim's hind legs were kicking in the death struggle after the tail of the slayer had ceased to beat the ground. Only his jaws had quitted their hold, and I saw them open and close in convulsive gasps. All four legs of the Tiger were underneath the body of the buffalo as it fell, as can be seen in the photograph taken early in the morning. In this case the Tiger had not straddled his legs over the kill, but stood by its side, the hind legs well under him. He was slain before he had time to break the neck of his victim.”

Colonel R. W. Burton also gives an instance of a Tigress killing a tethered buffalo calf of unusually small size. It was seized in the darkness while lying down, and the electric light at once turned on revealed the Tigress standing motionless as a statue with the slender neck of the calf grabbed from underneath as

it lifted its head. The calf was pulled out to the full length of the tethering rope. In this instance also the calf's legs were kicking in a death struggle after the Tigress had opened her jaws when the shot was fired.

Tiger-hunting in the Deccan generally involved in the first place a long ride of sixty or seventy miles to camp in the hot weather, which lasts from March until the onset of the monsoon rains towards the end of June. Horses were posted at intervals of a dozen miles or less if enough animals were available. Not only is the hot weather the best season for hunting, but only during that period could long leave up to sixty days be obtained. By the end of February the jungle had thinned out; the days were very hot, but the nights were cool until the middle of March; the leaves had fallen from the trees and undergrowth, except where there were covers of evergreen, such as tamarisk, jaman, and lokandi; much water had dried up, and was confined to the beds of attenuated rivers, or to pools in the valleys and ravines. Tigers had settled down to limited areas or beats in which they sought their prey, and conditions of water and cover made it easier to mark them down. Hunting in the hot weather, with a day temperature of about 110 degrees in the shade and at night perhaps ten or fifteen degrees less, was very strenuous and exhausting, but little thought was given to personal comfort in the ardour of sport, eagerly anticipated during the remaining months of the year.

It is not likely that anyone will forget the first Tiger he shot, however many years may have elapsed since the day always marked with red letters on the tablets of memory. I found my first one, a Tigress, in the broad valley of Shaikh Farid, at the foot of the hills

crowned by the old fort of Mahor, and just below the shrine of the Muhammadan saint from which the valley takes its name. Here, the day after my arrival in camp, ceremonies to propitiate the *deo* or spirit of the forest were attended by the whole camp, headed by myself and including Hindus, Moslems, and animists. The sacrificial goat was slaughtered at the *ziarat*, which was covered with a green cloth of the Prophet's colour, and the meat was cooked and eaten on the spot.

We descended the mountain to the valley below, where fresh tracks of a Tigress were seen on the paths and in the sandy bed of the watercourse. Here three buffaloes were picketed. In the morning I went with some of my men to view the baits, three or four miles from camp. Two had not been touched; they were loosed, bathed, and watered at the pools, fresh grass was cut for them, and they were left refreshed to resume their patient task, happily ignorant of the fate that awaited them. We approached the third spot with extra caution, for a crow perched on a tree-top in the thicket beyond was cawing vociferously, sign of the presence of the Tigress. Climbing a tree fifty yards off, we were able to view the place. The buffalo had gone and the tracks of the drag could be clearly seen, but as the thicket was at some distance, we could go near enough, without fear of disturbing her, to see the tracks by the pool and a patch of blood where the poor beast had met his fate. We found afterwards that the Tigress had leapt across a nullah with her prey in her jaws, and had fed in the depths of the thicket where she lay up. The buffalo was a small one; a Tiger has been known to jump a six-foot fence with a bullock in his jaws.

The sun was now high, and we returned to camp, where beaters from the surrounding hamlets were soon assembled. The ground was extensive but the beat was not difficult to arrange, for the cover in which the Tigress lay was limited to a large patch of bush and grass amid more bare surroundings, while tracks showed the direction from which the animal had come, and there was more heavy jungle in that direction, for which she would obviously make when disturbed. After seeing the beat arranged and the stops posted, I climbed some twelve feet up into a tree, the most suitable position for making sure of a shot, on the track she must take. All was still. Even the screech of the cicadas was silenced. All nature seemed to await breathlessly the appearance of the Tigress. Around me were many trees, now bereft of leaves by the scorching sun, amid which the scarlet tongues of the Flame of the Forest were conspicuous ; below in the cooler depths of the watercourse a brown pool slept in the shadow of jamun bushes. The sun blazed " all in a hot and copper sky," burning my feet and making the barrels of my rifle almost scorching to the touch.

Suddenly a shrill whistle pierced the silence ; it was the signal for the beat to start. Then the opening shout of the beaters struck upon the listening ear. A stag dashed out of the cover far away and galloped towards me ; he checked his speed beside a hillock, stood for a moment and then went off up the hill-side. A peacock, with six feet of burnished tail glittering in the sunlight, flew past on whirring wings. A little paradise fly-catcher, ghost-like in white plumage with streaming plumes, fluttered on the edge of some bushes. Then another peacock rose from a clump of bushes and bamboos a hundred yards off between me

and the beaters, uttering a clamorous trumpet-note of alarm.

I knew what that portended, and I could hear the beating of my own heart. Was the golden cat coming? Then there was the beat of padded feet on dry leaves; the heavy breathing of the heat-oppressed beast, driven forth from her shady lair. She approached rapidly with sinuous movement, gleaming golden in the sunlight, panting with lolling tongue and slavering jaws, erect and showing no signs of fear, smug rather than fierce in expression.

On this, as on all occasions, the appearance of the animal at once quieted all excitement. The thoughts were all concentrated on killing the beast; the pulse beat normally. The rifle, slowly raised, followed the Tigress as she came abreast of me, and I shot her behind the shoulder. She uttered no sound, and gave no sign, but went on. I have since observed that, while a responsive growl or roar following on the shot does not necessarily mean that the bullet is not quickly death-dealing, silence almost invariably indicates that the wound is mortal. I got down from my perch, reloaded, and followed slowly on the track of blood. Thirty yards farther on she was stretched out stone dead.

I used to start out on my annual expeditions generally about the middle of March. The earliest date on which I killed a Tiger was the 13th February, but that was an "extra," shot on an outing of three or four days' duration. I rode out sixty-three miles, starting at five o'clock in the morning, and reached my camp at noon. The country consisted mainly of small hills, with a sparse growth of mohwa and salai trees, the valleys and ravines containing patches of dense bush



Photo Colonel R. W. Burton

THE SLAYER AND THE SLAIN

in which numerous sloth bears found a shady retreat. One of these had been marked down when camp was reached, and I ran across the hills for a mile or more after it, eventually getting a shot and missing it at a distance of 200 yards.

A man-eating Tiger was reported to have killed a dozen people in the neighbourhood, which had a tradition as a haunt of man-eaters dating back at least to the middle of the last century, when a famous sportsman, Colonel Geoffrey Nightingale, had spent some weeks in these jungles and described the sport he had in a letter to a friend. The country now held few Tigers although there had been plenty forty years before this year 1897. Nightingale used his own elephant in the hunt, although he shot on foot at times. He also speared many bears, and, as he wrote, he "never shot bears when there was the least possibility of spearing them, and sacrificed many chances where the ground was impracticable for the horse." But he shot one very large bear on unrideable ground. The bear had been fighting a Tiger, and got fearfully mauled; his chest was full of maggots, and he was all over holes made by claws, but had beaten off his foe.

Among animals killed by Nightingale was a man-eating Tigress, described as "very old and worn, grey, and her teeth worn to stumps," and one of the bears was said to have killed a number of people. He also shot a man-eater well-known as the *Langra Bagh* or *Lame Tiger*, which had been lamed when about a hundred villagers went out to shoot him, and fired at and wounded him. But the Tiger rushed in at the crowd and "bagged his man with a composed face," since when no one had approached his jungle. This Tiger chased his shikari for a hundred yards, the man

escaping with difficulty. Nightingale went after him on his elephant and killed him with two shots. Altogether he shot ten Tigers in these jungles ; one " with a head like a tub " came charging out at him, and was killed after some roaring and scuffling. This Tiger was " old, nearly white, and his teeth were stumps. His skin was 12 feet 1 inch long and 5 feet broad, and he was 2 feet 8 inches round the neck, and such a forearm ! "

I have remarked elsewhere that man-eaters are rare in the Deccan, but there were in the middle of the last century a considerable number in this district. Nightingale shot another man-eating Tigress which had taken a man only a few days before, finding her on the very spot where she had killed her victim. She charged three times after he had shot a Tiger who was with her. He then moved camp a few miles to a spot where I killed a man-eater about forty years afterwards. This he terms " the haunt of a famous man-eater who had destroyed numbers of people " ; he shot this one without trouble, the villagers declaring that they recognised him as the culprit by " his very dark colour and awfully offensive smell." The skin of his descendant hangs in my hall ; it is a specially dark and well-marked skin, the owner having been a young and vigorous animal. He had, however, no offensive smell, and perhaps this quality was attributed to his predecessor by the imagination of the villagers, owing to a predilection for human flesh.

My camp was pitched near a village at the base of a range of low stony hills, covered with bush jungle and stunted trees. The hills are for the most part waterless in the hot season, pools in the ravines which cut deep into the range being few and far between, but several

wooded nullahs afforded cool and shady retreats for Tigers, leopards, and bears. In the plain below and round the village great mango and mohwa trees were thickly scattered, affording ample food for the numerous bears which inhabited the hills and descended at night to devour the fruit.

About a mile from the village one of the larger ravines, after debouching into the plain, was overgrown for a couple of miles of its course with a dense growth of palm trees, through the midst of which a nullah, containing some water during the summer months, wound its course. Here the man-eater began his depredations, which would probably have spread and assumed far greater dimensions had not an early end been put to his career.

The hills contained but few Tigers, which took frequent toll of the village herds. Then one night a youth, sleeping for the sake of the cool air in the open on the edge of the village, was seized and devoured among the palm trees. Only a few blood-stained rags were found in the morning; the tracks revealed that the big Tiger was the culprit. This was the first of many murders; he still killed cattle at times, but he liked to vary his diet with human flesh. A little later he carried off a herdsman in broad daylight, and then an old woman who was gathering the blossoms of the mohwa tree. When I reached camp, the tale of victims had already mounted up to a dozen, and I experienced a creepy feeling when my horse splashed through the water that lay across the path through the palm trees, especially when I saw the tracks of a Tiger who had quenched his thirst at the pool the night before.

Some buffaloes were tied up as bait in the ravines near the village, but he did not touch them that night;

so, having inspected the picketed animals, I went off after bears, and soon put up an old one, but did not shoot her ; for she had two young cubs perched on her back, peering out with beady eyes from where they clung to the long hair between her shoulders. At night I sat for an hour in a tree over a goat in the hope of shooting a leopard, but the beast would not come near although he could be heard prowling about not far off.

Next morning one of the buffaloes had been killed and dragged into the bushes in the long, jungle-clad ravine which ran into the nullah amid the palm trees, the scene of the end of more than one tragedy, opening out into a wide amphitheatre among the hills. The victim was a small animal, and it seemed possible that it might have been killed by a leopard, although the rope was broken or bitten through, and the body dragged away. However, the nullah had one soft spot that revealed the tracks of a big Tiger who had, moreover, left unsavoury but unmistakable signs of his visit.

Beaters were collected, and after posting stops and arranging for the conduct of the beat, I took up my position on an ant-hill at the top of the hill overlooking the ravine. The nullah was filled with bush, the men were unused to beating, and perhaps were timid in view of the reputation of the man-eater, for which they certainly could not be blamed. They advanced in an irregular line at first, but gradually bunched up into groups. The Tiger before long gave notice of his presence, roaring fiercely in the jungle below ; he tried to break out on the far side, but was turned back by the stops, and rushed down into the bed of the ravine, growling horribly and scattering the beaters in

every direction. The people now bunched up on every side, enclosing him in an extensive thicket ; they crowded below me, preventing him from breaking out in the required direction, and an accident from a rush of the fierce beast seemed imminent.

However, I went a short distance down the slope, and cleared away the men from below, sending them up trees lower down the ravine. The men on the far side now set up a yell, making all possible noise with bird-scares, tins, and drums, and the Tiger soon burst from the bushes below and galloped up the slope where I stood below the ant-hill. At the first shot he spun round, biting the wound, another bullet broke his spine, and a third finished him off, a satisfactory end to an exciting morning.

This wicked jungle long maintained an evil reputation for the ferocity of its wild beasts, apart from any man-eating proclivities. A shikari who was with me in hunting the man-eater was killed by a leopard a few years afterwards, probably owing to his rashness in attacking such an animal with an inferior weapon. And an Indian officer who accompanied a sportsman was pulled out of a tree by another of these animals. Then I was myself mauled by a leopard in the same jungle, and an artillery officer was killed by a Tiger he had wounded and followed up. These events happened at the end of the last and beginning of the present century, since when I have no information as to the wild beasts of that part of the country.

With careful arrangements, the beat should nearly always be successful. But it is not possible to provide against the failure of stops, for efficient men are not always available. I have lost several Tigers owing to stops either fearing or neglecting to take the necessary

measures for turning the game, or else turning it at the wrong moment. It is recorded in my journal of one expedition that soon after the beat began a Tigress was coming straight to me when a beater started calling out and clapping his hands ; the animal went off like a streak of light, affording no more than a distant glimpse of her yellow hide. But there were few failures and the beaters and stops usually behaved admirably. One great beast was coming along when he turned back for no apparent reason, but he would not face the beat and soon roared and was seen galloping away to one flank two hundred yards off. I thought he had gone, but the beaters who were fortunately extended on that wing raised such an uproar that he turned back again. Soon he came trotting straight towards me, growling and looking very angry, his fierce eyes flashing and his mighty head thrust forward with whiskers and ruff stiffly set ; a couple of shots killed him.

In another beat a few miles up the same nullah a Tiger soon appeared in front of the beaters, where he was greeted by abusive chattering on the part of a troop of black-faced monkeys, who bounced up and down in the branches of the trees above, following their enemy with objurgations and grimaces, and gestures of abuse. The Tiger saw the stops in the trees, no doubt while looking up at the monkeys. He rushed about roaring at them, one after another, and was at last sent on by a sepoy flinging his shoes in his face ; grumbling fiercely, he came charging along until a shot in the head brought him sprawling almost to my feet, where a bullet in the neck finished him.

But Tiger hunts do not always end so easily, and wounded animals have to be followed up. Captain

J. H. Vanderzee, who met with many adventures, was mauled by a lion in Africa, and finally drowned in a river in Burma more than thirty years ago, told me that he put in a herd of buffaloes to drive out a wounded Tiger. The herd passed within five yards of the beast without either seeing or scenting him where he lay in a clump of bamboos. Vanderzee fired a shot into the bamboos to bring him out, and out he came with a vengeance, charging up to the muzzle of the rifle when a second and last shot entered his mouth and reached the brain. There was blood on the muzzle of the rifle.

The head shot is not a good one to take. Parts of the skull are thick and hard, and a bullet has been known to glance off. The brain is not large, and a shot in the mouth is not certain of reaching it. A Tigress which I hit in the mouth, breaking some teeth, was as lively as ever when followed up at once. I picked up a broken tooth on the spot where she had been hit, and saw that she had entered some thick bushes, and for an instant caught a glimpse of her as she shifted her position. I crossed the nullah, and as I went up the bank on the other side, she charged out fiercely, with bloody, slavering jaws, and was rolled over when ten yards off. The first bullet had stuck in the back of her throat.

Even a shot in the brain has been known not to be fatal at once. Mr. Clifford Batten, while sitting over a kill, fired at a Tigress at eight o'clock in the evening. The bullet, after breaking her forearm, entered the head above the left eye and passed through the brain, coming out under the skin on the right side of the neck. The parietal bones were broken into four pieces, the whole cavity of the brain was smashed, and

what was left of the brain was reduced to a pulp. Yet with these injuries the Tigress was alive eight hours later and was found dead half a mile off.

As a rule I have not found Tigers difficult to kill, or displaying any remarkable vitality. I hit one far back as he galloped past, and was not sure that he had been hit, although he appeared to flinch slightly to the shot. However, the tracks showed that his claws had deeply scored the ground and after twenty yards there was one spot of blood. A few hundred yards farther on the Tiger came into view ; he had dropped dead in ascending the bank of a nullah. Another was slightly wounded in the back, the bullet making a superficial cut as long as my hand. He entered a grass-grown nullah, and soon afterwards I came suddenly upon him six feet off, where he lay under a tree. He must have been full of life, but a bullet killed him before he had time to get up.

CHAPTER XIV

RIFLES, CAMP EQUIPMENT AND CAMPS, TAXIDERMY

MOST of my shooting was done between thirty and forty years ago ; it is therefore difficult to write from personal experience anything useful with regard to rifles when the type of weapon has changed so greatly as it has since that time. I cannot presume to write about the performances of modern high velocity, small-bore rifles, although some of these were in use in my time, and I had one for smaller game, but not for Tigers. Although many have been shot with small-bore rifles, a long ranging weapon is not essential, few shots being fired at over fifty yards. What is wanted is a rifle that may be relied upon to kill, and, as snap shots in cover have to be taken sometimes when the shot cannot always be placed in a vital spot, this fact has to be considered.

The rifle should, therefore, in my opinion carry a charge capable of giving a knock-down blow, even though the animal may not be hit in a vital spot. For this purpose a small-bore is not suitable, while penetration due to velocity may be excessive, unless regulated by the use of a soft projectile. The bullet should have a sufficiently large striking surface and enough weight to deliver such a blow. Velocity is not everything. In fact there may be too much of it, for if penetration is too great the bullet will pass quite through the animal and instead of expending all its energy in the body,

much of its force will be wasted in the air. The desirability of a large striking surface will be understood when we compare the effect of a heavy brick thrown to hit a person with little velocity with that of a marble cast with much greater velocity. The brick will have a stopping or knock-down effect. With a bullet the greatest immediate effect is produced by the striking surface and the shock delivered by all its force being expended inside the object.

Another advantage of the larger bore is that the wound inflicted is more likely to leave a blood track than a small-bore bullet, over which the skin may close after its passage. In war remarkable recoveries from wounds inflicted by small-bore, high velocity rifles have been recorded; in some cases men shot through the heart recovered. Nor has the small-bore bullet the stopping power of a heavy one; often it will not stop a charging man; certainly it will often not stop a charging Tiger; and a light rifle is no easier to shoot with than a heavy one.

The rifle should not be so heavy that it cannot be carried without excessive discomfort through a long day's tramp in the hot weather. Many a time I have walked twenty miles and more over rough country when the thermometer registered a temperature of 110 degrees or so in the shade, carrying my own rifle. There are no doubt modern rifles as good and perhaps better for all-round shooting, but none could be better for shooting Tigers than my double-barrelled .500 express rifle by Holland & Holland, taking five drams of black powder, and a 440-grain hardened bullet having a thick cannellured base and a hollow in the point to contain a copper tube stopped at the outer end.

This rifle weighs $9\frac{1}{4}$ lbs. With this about a hundred Tigers, panthers, and bears were killed, and not one of these animals wounded was lost. I killed ten panthers with it in April 1912. It is still no less effective, my nephew, R. S. Burton, having shot a number of Tigers and other game with it in the last few years. If I were to go Tiger-shooting to-morrow it would be taken in preference to any other rifle. The smoke from the black powder has not been found inconvenient. And, as in old days, a second rifle of the same pattern would be taken, for accidents are always possible. I fell on a rock on one occasion, and the small of the stock was cracked, but was repaired with a leather boot-lace bound round it. But if it had been broken through there would have been difficulties, for it was the only rifle in my possession. It is best to have both rifles of the same pattern, to take the same ammunition. The rifle should be double-barrelled, from which two shots can be fired with more rapidity than from a magazine, although for more than two shots the magazine has the advantage.

The bullet should be sufficiently solid and heavy to ensure penetration. The old express rifles in general use were not trustworthy. They carried a bullet too light for the calibre, having thin walls and weighing only 340 grains, in fact a mere leaden shell, effective when it struck the soft parts of an animal's body but lacking penetration and liable to break up on impact with a bone. I have seen a Tigress, hit on the point of the shoulder by one of these bullets, quite lively, aggressive, and dangerous twenty-four hours afterwards, when a heavy bullet of the 440-grain type would certainly have disabled the animal immediately.

The introduction of small-bore magazine rifles of

long range, with a high velocity and consequent flat trajectory and extreme accuracy, has been productive of much harm in the destruction of game and prejudicial to sport itself, reducing shooting in open country to a mere mechanical operation, eliminating the element of skill in woodcraft essential to enable the sportsman to approach within shot with the old short-ranging rifles. The unscrupulous sportsman with one of these magazine rifles may work havoc among a herd of wild animals, as described in his book on hunting wild sheep in Mongolia by Prince Demidoff who, beginning at a range of 250 yards, kept on firing into the midst of a herd as long as it was within sight, killing and wounding a number of the unfortunate animals. However, the destruction of game in the haunts of the Tiger does not directly affect the subject of this book, although not without its effect on the habits of the Tiger. In all countries destruction has been wrought by the improvement and perfection of firearms, and the existence of some species is thus threatened.

A 12-bore gun will be found useful not only in supplying the larder with small game, which may include murrel or other fish, but, loaded with buck-shot or ssg cartridges, for following up and stopping the charge of a wounded Tiger or leopard. I have not tried this for Tigers, but it is certainly efficacious for the smaller animal, while a beast charging head-on offers an elusive mark, and is not easily stopped by a bullet. These cartridges should be loaded with black powder, nitro powder not being efficacious with large shot.

The question of a camp is important, and its nature, such as the size of the tents and its equipment and

supplies, must of course depend largely on expenditure not only on these things but on transport, as well as on the tastes of the hunter. My own tent was always the small double fly 80-lb. Kabul pattern, eight feet square, with a fly at the back for a bathroom and preferably lined with blue material to reduce the glare. Suitable tents were provided for followers, although these were little used, the men living in the open, as indeed I mostly lived myself. Small tents can be pitched under small trees where there would be no space for large ones, and the necessary shade obtained where there are no large trees. The followers' tents were pitched at a distance of twenty or thirty yards, according to the trees and consequent shade, while horses and other cattle were picketed near them.

Provisions depend on taste and on the supplies available in the country; they are often a difficulty in the absence or deficiency of local supplies in times of famine or scarcity. The followers' wants are simple, and can generally be supplied locally, and sometimes sheep, fowls, and eggs can be obtained for our own kitchen. But flour, rice, and dried fruits and vegetables are generally useful, although tinned foods are best reduced to a minimum. Stores should be packed with a week's supply in each box for convenience in expense and transport. Water may be boiled or chlorinated, and kept cool in canvas bags, called *chagals*, to hold about a gallon apiece, and so not too heavy or bulky for a man to carry during a long day.

For the preservation of skins there should be a sufficient supply of powdered alum and saltpetre, and arsenical soap, made with one part arsenic to two parts shredded soap by weight, the mixture to be boiled and some turpentine added when it is cooling. This

should be stored in tins. Maps, skinning knives, and other small additions to the equipment will be included, and there should be some hog spears for shikaris, and for sepoys if these are with the camp.

In pitching the camp tamarind trees are to be avoided; they are resorted to by goats and other animals and generally swarm with ticks whose bite causes fever and extensive swelling of the legs. It is well to have a few men mounted on ponies, as sometimes beaters have to be collected from villages scattered over a considerable area, and news of kills at a distance can be sent in rapidly by mounted men, so that arrangements for the collection of beaters can be made at once.

For transport it is generally best to employ that in common use in the part of the country concerned, which is naturally most suited to local conditions. Bullock-carts are the usual form of transport in most parts of India, but these vary in some districts. For example in one district I found small bullock-carts in use, the gauge between the wheels being much narrower than in other districts. The roads were not of the best, and were correspondingly narrow with deep ruts worn by the wheels, causing great inconvenience where larger carts were brought from an adjacent district.

Two or three baggage camels are useful to carry a heavy and bulky load, and, not being confined to cart roads, they enable one to be independent of such communications and to visit and encamp in places otherwise inaccessible, or to be reached only by the use of villagers as beasts of burden for carrying baggage. A small herd of young buffaloes, fifteen or twenty in number, would be taken for tying up as bait, to be

replenished for the supply of casualties as opportunity offered.

Medicines should be taken, not forgetting quinine and calomel, and carbolic acid, permanganate, iodine, and antiseptic gauze, cotton, and bandages for the treatment of wounds. Wounds inflicted by a Tiger or panther should be well washed out, treated with antiseptic, and kept open. I have known death follow on apparently insignificant wounds from a leopard's claws ; the bases of the claws and teeth of carnivorous animals are infected with putrid animal matter, constituting a poison likely to cause pyæmia.

A good map of the country is essential. The Ordnance maps, four miles to the inch, folded in book form and mounted on cloth, are excellent. There is not much time or inclination for reading when in camp ; the man who does his own hunting is generally tired out by evening and turns in soon after dark. But it is well to have a few favourite volumes. The bibliography at the end of the next chapter furnishes a large selection of works on sport and natural history. Every sportsman takes an interest in and should have a knowledge of natural history, and should keep a diary in which no incident or observation is too trivial to record.

The idea that fires lighted round camp will keep off wild beasts is still prevalent, like the widely-held supposition, on which it is based, that the great carnivora are given to attacking man at sight. There can be no doubt that the erroneous idea of the protection supposed to be afforded by fire or light arose from the fact that travellers generally ascribed their immunity from attack to the camp fire. From earliest times people have exhibited an inordinate terror of wild beasts ; as will be gathered from parts of this

volume, in particular cases this terror is not altogether unfounded, although it is groundless in connection with carnivora in general.

Humboldt was extremely frightened on one occasion on finding himself within eighty yards of a jaguar, although the animal took no notice of him. Like other travellers, he evidently expected these animals to attack on all occasions, and he travelled in terror of wild beasts. Thus when his party were about to sling their hammocks, two jaguars were seen, so they re-embarked to sleep on an island. On another occasion it is noted that "to their surprise jaguars swam to an island on the Orinoco, although they had kindled fires to prevent them; but these animals did not venture to attack them"; and again "fires were lighted to intimidate the jaguars." Yet the jaguar scarcely ever attacks man, and most rarely takes to man-eating. Darwin was possessed by the prevailing dread of great carnivora. He wrote in his *Voyage of the Beagle*: "the fear of jaguars destroyed all pleasure in scrambling through the woods" on an island in the Parana, and tracks and other signs of their presence obliged him to return to the ship after he had gone a hundred yards.

These incidents illustrate the fear by which even experienced travellers were inspired by the false reputation for ferocity ascribed to wild beasts. It appears to have been an established tradition that all the great carnivora were dangerous and would attack camps by night unless the encampment was protected by fires; yet Humboldt himself wrote that the fires lighted by the boatmen on the shore attracted crocodiles and dolphins. So also W. H. Hudson (*The Naturalist in La Plata*), while he wrote that camp fires serve to



TAKING HIS SKIN OFF

attract beasts of prey, said that "the confusion and fear caused by the bright glare makes it safe for the traveller to lie down and sleep in the light," and that "the camp fire the traveller lights is a protection in a district abounding with beasts of prey." Hudson evidently held the prevailing notion on the subject. It is noteworthy that, according to Herodotus, "on every occasion of a fire in Egypt the strangest prodigy occurs with the cats. The inhabitants allow the fire to rage while they stand about and watch the animals which rush headlong into the flames."

Certainly the man-eating Tiger which seized Dawson, the night-watcher of a picnic party benighted on Sagar Island, was not alarmed by the fire ; only the confusion due to the glare caused the monster, like Shere Khan in *The Jungle Book*, to jump into it, and roll over and over in the fire with the unfortunate Dawson in its jaws, to be devoured in the adjacent jungle. Nor, in the same locality a few years afterwards, was a large fire consisting of whole trunks of trees any protection from the Tiger which carried off Munro, although the narrator of the tragedy said that he made it on purpose to keep the Tigers off, as he had always heard it would. Major Shakespear related in his *Wild Sports of India* that one of his troopers was carried off by a man-eating Tigress from beside the camp fire when actually being posted as a sentry ; and leopards have been known to enter a hut and drag their victims through the fire lighted in front of the door ; in one case when a leopard seized a man by the throat in this manner, his wife hung on to his feet, while the leopard pulled at him over the fire—pull devil, pull woman—and the poor woman recovered only the dead body of her husband. A man-eating Tiger in Lower Burma killed

the servant of a Forest Officer as he was entering his master's tent, in spite of the many camp fires.¹

Similar stories come from Africa, where fires have prevented neither lions nor spotted hyenas from attacking their human prey. Gordon Cumming's man Hendrick was seized and carried off by a lion when sleeping beside a camp fire, nor did brands snatched from the burning deter the monster from walking off with and eating his victim. The infamous lions of Tsavo feared neither fire nor light. Captain Pitman, Game Warden in Uganda, wrote that "two herdsmen, benighted after recovering a stray ox, had to sleep out. In spite of a large camp fire they kept blazing, the ox was attacked by one or more lions, and as soon as the men went to its rescue, they were set upon and killed. One was dragged away and almost completely devoured."²

It is as well, then, that the traveller or hunter should take care not to be led astray by popular notions, even when repeated by experienced naturalists like the author of the *Naturalist in La Plata*; let them not imagine it safe to "lie down and sleep in the light" if there is a man-eater about, or they may have a rude awakening—if they ever awake again! At the same time a camp fire has its uses and should be lighted and a watch kept if a man-eater is known to be in the neighbourhood. For although the fire will not itself deter such a beast from attack, the light may enable the sentry to observe the approach of a wild beast, and an animal will not usually attack if aware that it is being observed, while in any case, if thus exposed to view, it can be dealt with by gun or rifle. But that is a very

¹ *Game and Gun*. February 1932.

² *A Game Warden and his Charges*. Nisbet. 1931.

different thing from an assumption that fire or light is in itself a protection ; it may be an attraction, and it may reveal the presence of the camp to the prowler of the night. I have in the hot weather always slept in the open outside my tent, and often at a distance *à la belle étoile* to get all the cool air available away from overshadowing trees, and have had no camp fire lighted for protective purposes ; but then there have been no man-eaters about.

It is often stated that, while the leopard will readily take a goat near which a lantern or a lighted wick in an earthen pot with a hole in the side is placed, the Tiger will not approach under such conditions. This is, however, a mistaken idea as Mr. Shortridge found when he was in Tenasserim collecting specimens for the Bombay Natural History Society. He had two hurricane lanterns placed near the carcass of a buffalo killed by a Tiger, as the moon would be late in rising, and he wanted to keep the Tiger off the kill during the early part of the night so that he would be able to shoot it later by moonlight. However, it took no notice of the lanterns, but came and dragged the kill away. Rice relates that he saw a large Tiger pass and repass within a score of paces of where he slept, with camp fires burning all round.

It is essential for the preservation of trophies of the chase that the hunter should know how to preserve the skins and heads of animals, just as in hunting he should be fully acquainted with their character and habits. It is well to allot to a trusty follower the duty of seeing to this matter from the time the Tiger is shot. He must prevent any purloining of whiskers, see that the animal is bound to a strong pole for the journey to camp, and supervise its transport by the eight or ten

men needed to carry it. On arrival in camp he must see that it is deposited in a suitable place, and in fact that the trophy is in all respects properly preserved, including skin, skull, claws, whiskers, and clavicles. Sometimes the skinning has to be done on the spot where the animal is killed, for it may be many miles from camp and in a place inaccessible or inconvenient for transport.

The hunter, like Mowgli in *The Jungle Book*, should "know better than anyone else how an animal's skin is fitted on, and how it should be taken off." But when it is added that "a boy trained among men would never think of skinning a Tiger alone," it does not imply that he should not be able to do so, although the necessity is not likely to arise. I have myself skinned a bear, and no doubt could equally well have skinned a Tiger. The schoolboys of my day were addicted to hunting with catapults such wild animals as they could find, including rabbits, squirrels, mice, moles, and birds, and we skinned many of them. Large animals can be treated in the same manner as small ones, when we know how their skins are fitted on.

The beast should be laid on its back in a convenient spot, and the first incision made with a sharp knife straight from the lower lip down to the end of the tail. Several men can be employed, others besides the actual skinners will help by holding out the limbs. Then incisions should be made from the pads of the feet and along the inside of the legs, dividing the white evenly, to meet the central cut, care being taken in all incisions that the knife does not penetrate the body, causing an effusion of blood. The skin can then be stripped off without difficulty, especial care being exercised about the lips, eyes, nose, ears, and paws. Meanwhile a

level place under a tree will have been swept clean, where the skin can be pegged out in the shade on a "bedding" of dry grass, for if in the sun the fat will melt and soak into the pelt, causing it to harden and make the skin unpliant. Before the skin is pegged out see that there are no white or other ants in the ground, and wash off the fur any blood from wounds.

The skin, being placed fur downwards on the selected spot, must be pulled out but not unduly stretched, and then pegged down with hard wooden pegs or suitable nails, the first peg at the nose, the second at the tip of the tail to ensure a straight line. Skins are often stretched too much to make them appear longer, but length may detract from width. The stretched skin should be a foot or eighteen inches longer than the measured dead animal. Colonel Pollok mentions that he shot a Tiger 9 feet 7 inches long, the tail being only 2 feet 9 inches ; but the stretched skin measured close on 13 feet in length. After the pegs at nose and tail have been driven, the legs should next be pegged out, and then the pegs are driven alternately on each side along the edge of the skin. It is a good plan to fasten the nose to the peg with a cord through both nostrils.

All flesh and fat should be removed from the skin, especial care being taken in opening up and cleaning the portions round the lips, ears, eyes, nose, and paws. The claws can be left in or removed as desired. A skin is more perfect if complete with claws and whiskers, but these are liable to be stolen. When the skin has been well cleaned it should be dressed with a mixture of powdered alum and saltpetre, which may be worked in by hand and with the aid of flat stones. White wood-ashes from the camp fire may be used for drying purposes, care being taken that the ash is not

hot. The parts about the eyes, nose, ears, lips, and paws are especially liable to go bad ; they should be very carefully scraped and cleaned and dressed with arsenical paste.

The skin will dry in about twenty-four hours in the hot weather. It should then be taken up and may be hung on a convenient branch of a tree in camp ; skins should be out of reach of jackals, dogs, and other scavengers. In one of my camps a bison skin was dragged off and partly eaten by a hyena. For travelling the skins may be fixed on a wooden frame. A dozen or so Tiger-skins make a very bulky load. For packing purposes, to send away to the taxidermist, skins may be softened by rubbing in with flat stones or bricks a mixture of buttermilk and powdered alum. They will thus be made pliable enough for packing in tin-lined boxes for despatch to England or elsewhere. Thirty to forty years ago the bazaar skin-curers were not to be entrusted with the curing of skins ; they spoilt them by the process employed, often using an excess of salt which caused sweating in damp weather, and eventually the skins rotted. The fur may be painted with turpentine to preserve it from insects.

Probably there are now competent taxidermists in India ; some dozen leopard skins cured and mounted for me by the Sapper workshops at Rurki twenty years ago are still in perfect order. The Bombay Natural History Society will recommend competent taxidermists. Skulls should not be boiled, buried, or put into ants' nests ; they should be cleaned of all their contents, and all flesh cut and scraped off with knives. One of the camp-followers can be entrusted with this work. Teeth are liable to split to pieces in hot, dry weather, and should be wrapped round with wax to prevent this.

CHAPTER XV

THE TIGER IN HISTORY AND LITERATURE

IN history and literature, except the literature of hunting in India, the Tiger does not occupy so large or so prominent a place as the lion, probably because it was in former times the lesser known of the two animals, the lion having been long established as the king of beasts. The lion is frequently mentioned in the Bible, where there is no word of the Tiger ; Jeremiah prophesied of the judgments of God upon the Jews that “ a lion out of the forest shall slay them, and a wolf of the evenings shall spoil them, a leopard shall watch over their cities : every one that goeth out thence shall be destroyed.” Not only was Daniel cast into a den of lions, but the habits of the animal are accurately delineated in some passages.

The lion is figured in prehistoric cave-drawings in France and the Pyrenees ; it was well known in Eastern Europe ; it ranged not only the wilds of Greece, but of Western Asia ; and although the supposed migration of the Tiger to the south and south-west from the cradle of the race in Northern Asia has receded in point of time, the lion must have been well known before the Tiger, inhabiting more remote and intricate country, came upon the scene. But Tigers as well as lions were seen in the triumphs of the Roman Emperors, and they took part in the holocausts of the

Roman arenas. The early Christians were cast not only to lions but to ravening Tigers. The Bestiarii contended before the populace in the Colosseum with both species. After the triumph of Trajan over the Dacians, 11,000 wild animals and 10,000 gladiators are said to have taken part in the sports held by command of the Emperor Claudius. And at the inauguration of Pompey, 500 lions were slaughtered in mutual combat or in fighting gladiators ; pictures exhibit Tigers as well as lions in these scenes of savagery.

In Hindu literature, dating far back in the Christian era, there are many references to the Tiger, the Sanscrit word for which—*vyaghra*—has been referred to in a previous chapter relating to the immigration of the animal into India. The author of a hymn in the Rig-Veda was named *vyaghrapad*, Tiger-footed, and there are allusions to the Tiger in the story of Nala and Damaganti, an episode of the Mahabharata. The same writer¹ tells us that *vyaghra* occurs in three places in the Manava Dharma Sastra, dating back to the year A.D. 500. These passages are (1) where the twice-born are enjoined by all possible means to release a cow threatened by robbers or Tigers ; (2) where lions, Tigers, and bears are instances of the incarnations resulting from darkness ; and (3) where the penalty for stealing a horse is rebirth in the form of a Tiger.

Whether the Buddha ever stole a horse in one of his earlier incarnations is a question, but according to Sir Edwin Arnold's *Light of Asia*, he relates :

¹ See an interesting note by Lionel Davidson in *The Field*, 8th November, 1928.

“ Myriad years ago
What time I roamed Himala’s hanging woods,
A Tiger, with my striped and hungry kind ;
I, who am Buddh, couched in the kusa grass,
Gazing with green blinked eyes upon the herds
Which pastured near and nearer to their death
Round my day-lair : ”

In this form he conquered many other Tigers in strife with tooth and claw, and so won his Tigress. Then, in another of his many lives, having by now attained great heights upon the upward way, he acquired more merit by delivering his body in pity to appease the hunger of a starving Tigress whose “ orbs gleamed with green flame,” and who could not feed her cubs which,

“ whining with famine, tugged and sucked
Mumbling those milkless teats which rendered nought ” ;

and so the Buddha “ silently laid aside sandals and staff,” and stepped forth to meet the jaws of the monster, “ bloody with ravin,” who

“ had her feast of him,
With all the crooked daggers of her claws
Rending his flesh, and all her yellow fangs
Bathed in his blood ; the great cat’s burning breath
Mixed with the last sigh of such fearless love.”

If these things are truly recorded of the Buddah’s sayings it would place the advent of the Tiger into India as far back at least as the last rebirth of the Master, at the end of which he “ entered Nirvana where the silence lives ” more than twenty-four centuries ago. But it may be that poetic licence is responsible for many passages referring to the animal in *The Light of Asia*. However, we have already put that advent as far back as 5000 years by the evidence of the seals found in Mohenjo-Daro, where, so long ago,

just as to-day and in the time of Gautama Buddha,
roamed

“ the striped murderer,
Who waits to spring from the korunda bush,
Hiding beside the jungle-path.”

A recently-published book gives some description of what are termed “ the most prominent big-game hunters of ancient and modern times.” But as most of the more famous hunters were omitted, it is not uninteresting to deal with a subject which is always attractive to sportsmen and naturalists. Among the omissions are Nimrod, a “ mighty hunter before the Lord ”; Bairam, of whom Omar Khayyam wrote 800 years ago :

“ Bairam, that great Hunter, the wild Ass
Stamps o’er his Head, and cannot break his Sleep.”

Nausherwan, the Persian, whose name means “ Slayer of nine Lions.” The Indian list of “ prominent big-game hunters ” is especially lacking. Among them should be Babar, Founder of the Mughal Empire, who hunted the lion, the Tiger, and the rhinoceros on the banks of the Indus, from whence these animals have long since disappeared. Other strange omissions are Akbar the Great, grandson of Babar, and his son Jehangir, whose love of the chase of wild beasts is recorded in their Memoirs, and has been depicted in extant paintings of their times.

When we come to English sportsmen there should be a long list of Tiger-hunters. But even Walter Campbell, “ The Old Forest Ranger,” is omitted, together with Walter Elliot, who initiated Campbell in this sport. There was Captain Williamson, author of *Oriental Field Sports*, a valuable book difficult and expensive to

procure ; Judge Ramus killed some 400 Tigers in Bengal early in the last century, and Parry Okeden must have counted his Tigers by hundreds ; James Outram, " the Bayard of India," famous as a Tiger-hunter in the Bhil country of Khandesh long before he earned glory as a soldier ; Shakespear of the Nagpur Irregular Force, who gave a graphic description of the death of man-eaters in his book *The Wild Sports of India* ; Colonel Geoffrey Nightingale, great game hunter and pig-sticker, whose end came from the bursting of a blood-vessel in the brain when he was on horseback in the act of spearing a panther. There were many famous sportsmen in the Madras Presidency ; General E. F. Burton, author of *Reminiscences of Sport in India*, a book containing racy descriptions of Southern Indian cantonments in the early forties, as well as accounts of hunting Tigers and other great game. Douglas Hamilton, and " Hawkeye," the well-known hunter of the Nilgiris ; Michael, elephant hunter and Tiger slayer, whom the present writer met in 1904 on a channel steamer ; Michael was then a retired General and an old man, but he was interested in a wounded arm, carried in a sling, which the writer had recently sustained in an encounter with a panther. Another keen sportsman was Pollok, author of several books, who shot much big game in both India and Burma.

In Rajputana, Rice shot many Tigers as recorded in his book *Tiger-shooting in India*, relating to sport in Rajputana and Central India in the fifties of the last century ; Montague Gerard of the Central India Horse killed 300 Tigers, and Cunliffe Martin of the same regiment must have shot as many. The Central Provinces produced many fine sportsmen, among others Sterndale, also a competent naturalist, and

Forsyth, author of one of the best of books—*The Highlands of Central India*. Baldwin wrote accounts of his experiences of sport and natural history in his book *Large and Small Game of Bengal*; in Bengal were many noted Tiger-hunters, the Maharaja of Cooch Behar; the Shillingfords of two generations, indigo planters in Behar; Markham, of the Civil Service, who, under the style of "Rohilla," wrote many articles in the *Asian*, the Calcutta sporting paper. There have been other sportsmen during the nineteenth century, too numerous to mention, including many Forest Officers such as Eardley-Wilmot and Dunbar Brander. Inverarity and Sanderson have already been mentioned in connection with questions of natural history. Both were great hunters of the best type.

In considering the hunter's exploits, one must consider also the circumstances in which he hunted, the weapons of his time, the opportunities made or possessed, and the means employed. For example, army officers in India, having limited time and opportunities at their disposal, in former times, whatever may be the case to-day, had not the same facilities for obtaining sport as did those in the civil services who, moreover, by the nature of their position and employment were able to call on more assistance from native officials and others. Hunting, however, does not imply the mere slaughter of wild beasts, but a knowledge of and interest in their habits, which enables the sportsman to carry out his own arrangements for bringing the game to bag, apart from the assistance of native shikaris and others. Moreover, the officer in the Indian Services possessed the great advantage of a knowledge of the natives and their habits in general denied to the British Army officer.

Big game was far more abundant in days gone by, when the hunter was more free to range the jungles at will, especially before the Rajas and other Chiefs began to preserve the game in their dominions, and before the establishment of the Forest Department, and the restrictions very properly instituted for the preservation of wild life. But the weapons of those times were infinitely less accurate and effective in all respects than those of to-day, necessitating more woodcraft to enable the hunter to approach within range of his game, although this applies rather to hill game and that found in the open plains, for Tiger-shooting takes place at short distances. But it is not possible to withhold admiration from those old hunters who performed such remarkable feats with inferior muzzle-loading weapons.

Animals in early days were naturally easier to approach, being less hunted, and therefore less wary and more unsophisticated. There are now nowhere to be seen the vast quantities of game described by Harris, William Cotton Oswell, Roualeyn Gordon Cumming, Samuel Baker and other early sportsmen in Africa, or even the numbers seen by Selous and others in the last quarter of the nineteenth century. Even in India fifty years ago herds of five or six hundred antelope were to be met with.

However, we are here concerned with Tigers. The old hunter who has retired from the scenes of his activities has many things that remind him of the days that are no more. There are the striped skins and grinning skulls, some set with jaws open and life-like eyes. In the corner of the library stands the old rifle with which he ranged the jungles during so many years, perhaps dating back half a century or more, and now for ever

silent, in company with spears, swords, hunting knives, and fishing rods. On the bookshelves are the travel-stained maps, pored over so long and so often in days gone by, with routes marked on them over which he may have ridden 70 or 80 miles between sunrise and sunset. Camping-grounds where the hunter's tents were pitched are also marked, and in my own maps good localities for Tigers are indicated with red ink, while every one killed has a memorial on the map in the form of a T, calling to mind many happy days. But the old hunter does not repine; he "looks not mournfully into the past, it cometh not again"; rather he looks joyously back to days when he lived indeed!

The library is well stocked with books on big-game hunting and natural history, not only in India, but in Africa and other countries which have been visited only in imagination. Most valued of books, perhaps because it is the oldest, is Williamson's *Oriental Field Sports*, although its chief attraction is in the forty fine coloured illustrations from spirited drawings by Samuel Howitt, depicting the hunting of most of the great beasts of India.

An interesting book by Surgeon Daniel Johnson, of the East India Company's Bengal establishment, entitled *Indian Field Sports* and published in 1823, describes how the Nawab Vizir of Oudh, Azof ud Daula, used to take the field for the chase. No doubt the description is typical of the methods of hunting by the Mughal Emperors, recorded in their Memoirs already referred to, and depicted in Mughal paintings.

When the Nawab took the field, all the Court, a great part of his army, and his seraglio accompanied him; only a guard being left for the protection of his capital. About 10,000 cavalry, 10,000 infantry, 30 or 40 guns,

and 700 elephants marched with him. Bullocks, camels, carts for tents and baggage innumerable formed the train. Some tents had enclosures seven feet high and 100 yards in circumference set round, with wooden floors in the rains, and there was a market of 40,000 to 60,000 people. He left his palace in Lucknow in the early morning, preceded by musicians playing a variety of instruments. As soon as he was clear of the city, a line was formed with the Nawab in the centre, generally on a gaily-caparisoned elephant, with two spare elephants, one on each side ; the one on the left bore the state howdah, that on the right the spare guns and ammunition. There were forty or fifty double-barrelled guns besides single-barrelled long guns, rifles, and pistols. Behind him were several led horses, gaily caparisoned, and the whole of his private stud of 300 horses, with tents for their accommodation.

The Prime Minister and the Court were arranged on the right and left according to rank, with his adopted son, Wazir Ali, afterwards the Nawab who murdered Mr. Cherry and other Englishmen, who died in prison at Patna in 1818. On the march the line of elephants was accompanied by 500 cavalry on each flank, the whole forming a convex line. Two men carrying bags of money ran in front of the Nawab, and immediately before them men with hawks of various kinds and others with a leash of greyhounds. The line moved straight towards the camping-ground, marching over cultivation and everything. The cultivators ran behind calling for compensation, and the Nawab allowed large sums of money which, however, never reached the sufferers.

When game was started, those near began to fire ;

and sometimes a line of fire like a *feu de joie* was kept up at a quail ; when a bird fell, all shouted " Wah ! wah ! (Bravo ! bravo !) the Nawab killed it ! " If a jackal or fox were slipped, the keeper whose dog caught it was rewarded in proportion to the amusement afforded by the sport. If the march was over barren land where there was no game, a race among the gentlemen would take place, and bets were wagered. The race was ludicrous, the legs and arms of the riders appearing in quicker motion than the hoofs of the horses, and the horses, encumbered with trappings, made more noise than speed.

Then tumbling girls, boys, and men exhibited their agility in front of the Nawab ; in camp they were amused with dancing. At the halting place they hunted Tigers, lions, panthers, leopards, buffaloes, and deer, and killed vast quantities of game. It will be understood that with such a concourse moving through the jungle, few animals could escape.

The ephemeral sporting literature of India has shown a great decline during the past half century and more. Certainly there has always been difficulty in maintaining sporting publications mainly owing to public apathy, lack of business methods, and especially indifference on the part of those who should be interested in the support of such literature. Naturally the Tiger has always occupied the most prominent place in such publications. The weekly *Asian* newspaper, published in Calcutta, was long a well-managed and successful publication, dealing with natural history and sport in every form. It flourished for many years, certainly during the whole time the present writer was in India from 1887 to 1914. But both the *Asian* and its rival, the *Indian Field*, have long departed, the



A MUGHAL. TIGER HUNT

From a Mughal painting in the Prince of Wales Museum, Bombay.

former in the cataclysm of the Great War, the latter on the retirement of its founder and editor, Mr. W. S. Burke. For a few years at the beginning of the present century the *Indian Sporting Times* of Bombay was in existence. Now there appears to be no sporting paper in India, although the Journal of the Bombay Natural History Society has occasional articles on sport, and is always informing on points of natural history, while the *Indian State Railways Magazine* also publishes interesting articles on big-game hunting.

Both the *Bengal Sporting Magazine* (1833-1846), under the direction of a talented and versatile scholar, J. H. Stocqueler, and the *Oriental Sporting Magazine* (1828-1833) had a short run during the earlier years of the nineteenth century. But they disappeared, the *India Sporting Review*, edited by James Hume, taking their place for a time, beginning in 1845. These publications contained excellent accounts of Tiger-hunting adventures, and their rare existence in the library has furnished a source of never-failing delight to the retired hunter.

The *India Sporting Review* soon disappeared, during the Mutiny, but in 1866 an enterprising spirit revived the *Oriental Sporting Magazine*, and maintained it in diminishing form for some ten years. First begun as a monthly, it had to be reduced to a quarterly in January 1867, when the unhappy editor wrote in his Preface : " We might almost be excused for exclaiming in the commencement of this our first quarterly number— ' How are the mighty fallen '—referring not to the magazine but to ' the sporting fraternity of India in general.' " As he added truly : " A magazine of this description cannot be kept up, as in England, by any paid staff of writers." He recognises that paid

contributors are impossible, and appeals for pecuniary assistance to sportsmen. Neither the editor nor the proprietor made or expected to make money by the publication. All he asked for was subscribers and the punctual payment of subscriptions, and contributions from sportsmen.

The magazine contained many good articles on Tiger-hunting, and had such famous contributors as Henry Torrens, Major Rowland Hill, James Blyth, the Shillingfords, Fraser, Douglas Hamilton, and his brother. The latter, under the pseudonym of "Hawkeye," contributed many picturesquely-written articles. But the publication dwindled and disappeared in the late 'seventies of a century with which so many of the best things in life have departed.

Some of the sportsmen of bygone days produced many interesting books which the present writer, for one, finds far more attractive than most similar publications of the present century. Their natural history was in many cases primitive; some of their Tigers used to measure up to thirteen feet by the length of the stripped skin as already described, a quite legitimate method when almost universally adopted, though not of natural history value. Their weapons were primitive in comparison with those of to-day, and even compared with the black powder express rifle of the present writer's time. They wrote well and picturesquely, although many of them, owing to prolonged uninterrupted residence in India, interlarded their literary productions, as they did their speech, with Hindustani words.

A famous book, *The Old Forest Ranger*, by Colonel Walter Campbell, was published in 1845. The author was only five years in India, but he managed to enjoy

much big-game shooting during his short residence in the south, and he was an observant hunter. He went to India as a subaltern in the 7th Royal Fusiliers in 1830, and has written a spirited account of his voyage and many experiences in another book, *My Indian Journal*, published in 1864. He mentions an expedition of three weeks in which he with his brother and Walter Elliot killed 13 Tigers in 1832 ; this may be compared with a bag of 14 Tigers in six weeks made sixty-five years later by myself with my brother, A. R. Burton, and of 13 Tigers in five weeks by E. B. and R. G. Burton in 1899 in Hyderabad State.

The Old Forest Ranger is a mixture of fact and fiction, related in racy style and with a humour not always found in a Scot, but perhaps Campbell owed this to his English mother ! His books are well illustrated with old-fashioned steel engravings, as well as woodcuts, so much more attractive than the photographs which have superseded this kind of illustration. These photographs, generally of dead animals, convey to the reader nothing of the animal in action, such as can be imparted by a skilful artist.

Even in those days books on big-game hunting had a wide circulation, when so indifferent a compilation as Greenwood's *Wild Sports of the World*, published in 1864, went into 50,000 copies. A small book, *The Wild Sports of India*, by Major Henry Shakespear, is dated 1862. The frontispiece shows the author, a picturesque figure in undress cavalry uniform, with fine features and a beard down to his waist. An officer who knew him in 1849 described him as " fair with blue eyes, jet black hair, whiskers and beard parted at the chin and brushed up towards the ears, with a long drooping moustache ; I don't think I ever saw a handsomer

man." His wife used to say that she was always in trepidation when he was out shooting or pig-sticking, for he was frequently brought home on a litter from injuries sustained in these pursuits.

A scarce volume, illustrated by the author, is Rice's *Tiger-shooting in India*, relating to sport in Rajputana and Central India between 1850 and 1855, when the writer, afterwards a Major-General, was a captain in the 25th Bombay Native Infantry. Rice's sport was remarkable from his having done most of his shooting on foot, which perhaps accounts for his extraordinary bag, together with his friends, of 68 Tigers killed and 30 wounded, which he calls "a bag of 98"; 3 panthers were killed and 4 wounded; and 25 bears killed to 26 wounded. A footnote tells us that "several others of the above-named animals were confidently supposed to have been wounded, but they are not included in the list, as no blood could be found to clearly prove the fact; this was our invariable test, but by no means always a correct one." Wounded animals are not properly included in the bag, and one trembles to think how many unarmed natives may have suffered afterwards. Rice's Tigers were mostly over 11 feet and some over 12 feet in length, even Tigresses running to 11 feet 6 inches. No doubt the measurements were taken from well-stretched skins.

A scarce volume is Newall's *Eastern Hunters*, published in 1866, containing excellent accounts of Tiger and bear shooting. Baldwin's *Large and Small Game of Bengal*, a fairly comprehensive work comprising the observations of a keen and experienced sportsman, was published in 1877, and in the same year appeared Sterndale's *Seonee*, a pleasant narrative of sport in a district of the Central Provinces, containing much in-

formation on the habits of wild animals. A few years later the same author published his *Natural History of the Mammalia of India*, a work far preferable to many more pretentious publications, for the author was not a mere compiler like some professional naturalists who, as R. L. Stevenson says, write of nature "as if with the cold finger of a starfish."

Forsyth's *Highlands of Central India* is a standard work by a fine sportsman who had left the military service to enter the Forest Department of the Government of India, instituted in the 'sixties. He unfortunately died in 1871 from malarial fever contracted in unhealthy jungles. *Sport in many Lands*, a work of fiction by H. A. L., "The Old Shekarry," may be mentioned. The author was Major H. A. Leveson, who died in 1875, after what appears to have been a varied and adventurous career in every continent. He joined the Madras Army in about 1845, but served only a few years in India during which he did not shoot at all, and according to an officer who served in the same regiment with him during those years, and whose name Leveson has "taken in vain" in his book, this "Old Shekarry" did not shoot and never saw a Tiger outside a cage. Another well-known sportsman of the time, whose experiences had been annexed for personal application by Leveson, was said to be looking for that officer with a gun. However, the Old Shekarry was a very good raconteur, whose books contain interesting fact and fiction culled from many sources. Whether the stories of his adventures in other countries are as apocryphal as those relating to India it is impossible to say.

Sanderson's *Thirteen Years among the Wild Beasts of India* is one of the best of the long series of its kind ;

his tales of Tiger-hunting, especially of the man-eating Tigress of Iyenpoor, are told with a graphic pen, and his descriptions of the habits of that animal and other wild beasts with which he deals are vivid and enthralling. The book was published in 1878. Next year appeared Valentine Ball's *Jungle Life in India*, a most valuable and well-written book relating to many matters of sport and natural history. The author was in the Geological Survey of India, so his scientific outlook adds greatly to the value of his work.

A keen observer of wild life and of things Indian generally was General E. F. Burton, of the Madras Army, whose *Reminiscences of Sport in India* was published in 1885. His racy descriptions of old Indian cantonments in the early 'forties, for he went out to India in 1839, and of the beasts, birds, and human natives of the country are graphic and entertaining.

With the new century came a new race of sportsmen who do not appear to have the intimate knowledge of the country and its human and other inhabitants possessed by those who made India their home and who visited their native land at rare and infrequent intervals. But Captain Glasfurd's intimate descriptions of the forests of the Satpura Hills are worthy of note. Sir S. Eardley-Wilmot was a Forest Officer of eminence who wrote several good books ; but perhaps the best description of the Tiger is to be found in Mr. Dunbar Brander's *Wild Animals in Central India*, published a few years ago.

CHAPTER XVI

TIGER MYTHS AND SUPERSTITIONS

IN every country some carnivorous animal of a more or less dangerous nature predominates in the public mind, becomes the subject of myth and the theme of story, and gives its name to places or natural objects. In England, as in ancient Rome, the wolf was long an object of dread, as it still is or has been in other parts of Europe, used to frighten children with tales like that of Little Red Riding Hood, to give its name to places such as Wolf Rock, and to plants like lupine, wolf's foot, lycopods or puff-balls, and other natural things.

As the wolf was an object of superstitious dread and legend in ancient Rome, and as it is in Eastern Europe to-day, so in the East the Tiger and the leopard are naturally similar subjects of superstitious fear, as they are of physical dread owing to the element of tragedy connected with such ferocious beasts ; it is only to be expected that they would seize on the imagination of man as they sometimes prey upon his body. Some aboriginal tribes, the Gonds, Korkus, and Bhils, regard the Tiger with superstitious awe, and even worship it in its actual or mythical form as the incarnation of divine or supernatural elements. The animal figures largely in Hindu mythology as the incarnation of imperishable gods, and is carved in relief or painted on the walls of temples and pagodas.

But while the wolf in its supposed capacity of assuming human shape is the beast of European legend and superstition, even giving its name to a form of insanity known as lycanthropy, to which no doubt many murderous instincts may be ascribed, its place in this respect is taken in India rather by the leopard or panther than the Tiger, as it is in Africa by the leopard or hyena in preference to the lion. It is not the Tiger or the lion that is invested with human attributes and the power of transformation into human shape, but the man-eating leopard. The Tiger is, however, curiously connected with the spirit of its human victim, which is supposed to accompany it and warn it of present or approaching danger. This may be illustrated by the Gond story of the man-eater for whose return to its human prey a native hunter, bent on its destruction, was watching over the corpse. The man-eater approached to resume his feast on the body of his victim, when the corpse raised a warning hand and pointed at the watcher in the tree. The Tiger retreated; the hunter got down, cut a bamboo slip, pegged the offending hand to the ground, and then climbed into another tree. A second time the man-eater appeared upon the scene, but was again warned by the pointing of the other hand, and turned back into the jungle. The hunter again descended, picketed the hand in the same manner, and resumed his vigil. Once more the Tiger came; there was no free hand for the spirit to indicate impending danger. The man-eater walked up to the corpse and bent down his head to eat, when the hunter shot him dead.

There are many variations of this superstition of the warning spirit. Where the victim was a shikari or hunter, the natives hold that it is useless to try and

destroy the Tiger, as the attendant sprite is up to every stratagem and can warn the beast how to avoid danger, and guide it in searching for a fresh victim. The spirit may be laid by the exorcisms of an aboriginal medicine-man, who for a time takes up his abode on the scene of the tragedy, which he reproduces, acting the part of the man-eater after making oblationary offerings on the spot.

The Gonds of the Deccan have many strange ideas regarding the Tiger, and queer notions were prevalent among my own followers when I was hunting these animals in Hyderabad territory thirty years ago. They ascribed to these aboriginals the power of turning the hunter's bullets. This power they ascribed in particular to the Gond Raja of Utnur, and to a wild shikari, Indru, who joined my camp for a time and accompanied me to the Raja's domain. For this reason it was essential to propitiate the Raja and the shikari and his tribe, so that we might be successful in hunting the Tigers which abounded in their part of the country. In this I was especially successful, securing a valued friend in the Raja, and a helpful follower in Indru the hunter, who was afterwards killed by a bison which he had wounded and was following up.

Indru's ashes repose for ever in the forest over which he had ranged during many years, for he was an old man of seventy years ; three times he had seen the general seeding of the bamboos, a phenomenon that takes place only once every thirty years. Then the great clumps scatter their seed, resembling grains of rice, welcomed as food by the poor people whose principal livelihood is found in the produce of the chase and the products of the forest, which help them to sustain life especially in times of famine and scarcity,

when they share with wild beasts the welcome seed of the bamboo and the nutritious fleshy blossoms of the mohwa.

In the still solitudes of those distant and splendid forests that I shall never see again, now viewed with poignant and longing memory through the vista of many long years, I hunted Tigers with my faithful followers, now all gone to the Happy Hunting Grounds, and with the aboriginal Gonds, where no sounds save those of Nature strike upon the ear, and where the wild beasts wander in peace over almost untrodden jungles. And there in silence and in peace for ever laid within the narrow glen, lies Indru, the Gond hunter, where he would wish to be, where the bison, the deer and the Tiger stamp o'er his head, but cannot break his sleep.

These Gonds worshipped the Tiger God among other deities of their animist beliefs. And who shall blame them! A few miles from my camp a leopard entered a hut and dragged a woman out in the middle of the night. But her outcries roused the village and the beast was driven off. It went into another hut, seized a boy by the throat, carried him into a neighbouring thicket, and there devoured him. When I went to try and hunt down the murderer, a vain search in extensive and intricate jungle, the people averred that the leopard had already been driven away by the Tiger God, whose aid they invoke when carnivorous animals take to man-eating or prey too persistently on their cattle.

The Divine Being in the form of an immense White Tiger, when invocations accompanied by the sacrifice of a bullock, a goat, or a fowl, have been made to invite his assistance, prowls round the afflicted area throughout the night, and expels the beast whose depredations

have been causing loss to his aboriginal protégés or their flocks and herds. Surely this so-called "superstition" is no other than belief in the great god Pan, pervading all animate nature, stamping his hairy foot in the jungles, and inhabiting not only the bodies of great beasts—the Tiger, monster of destruction and the bison, embodiment of vast strength—but haunting the sacred fig-tree beneath which the red-painted stone is set up to mark his shrine, and to invite oblations to propitiate his wrath or ask for his help.

Sometimes a "Tiger-house" is built in the depth of the forest as a habitation for the striped beast, where he may dwell without molesting man. These are but symbols of the all-pervading spirit which is fundamentally the object of awe and worship for propitiation in all religions, which are in essence pantheistic, whether in the guise of Pan, the Great Spirit of the Red Indian, the deities of the animist, the all-pervading divine essence, throughout all Nature, in all worlds terrestrial and celestial, in the heaven above, the earth beneath, and in the water under the earth.

While in India the place of the superstition which in Europe attaches to the were-wolf is taken by the leopard and not the Tiger, the latter animal appears to assume on occasion human form, or the man to assume the form of the Tiger, in the imagination of the Malays inhabiting the wilds of Java, and no doubt also in jungles of the Malay Peninsula. There in the forests haunted by man-eaters the *tuindak* is the Tiger in human form, and, as in some parts of India, the villagers are loth to tell of the presence of Tigers and will not mention the name of the beast for fear of the vengeance that may befall them should they set the hunter upon its track.

An enterprising American lady who attempted to hunt Tigers in the Malay Archipelago and Peninsula related¹ that a Malay living in a remote village kept himself to himself and was regarded as queer, although there was nothing specific against him. There were, as there are in all Tiger-haunted regions, tracks of these animals to be seen almost daily in the adjacent forest. One evening a young girl went to fetch water from a well near the village, and a Tiger sprang upon her and attempted to carry her off. Her father rushed to her rescue, and speared the tiger through the body, but the beast escaped, although wounded.

The trail was taken up ; it led to the hut of the solitary inhabitant who lived on the edge of the forest. There was blood upon the threshold, and upon the ladder that led up to the entrance. The villagers called out to the inmate, but no one answered or appeared. Thinking that the Tiger had killed the man, they entered and found the owner dead upon the floor of his hut, transfixed by the spear which the father had cast at the beast that had seized his ill-fated daughter.

The story reads very like that of the Russian nobleman who came back from hunting and said that he had been attacked by a wolf ; he cut one of the animal's paws off, and when he got home found that it had turned into a human hand, and that on the fingers were his wife's rings. He found his wife sitting at home, with one of her arms bandaged, and the hand missing, which proved to be that in his pocket. This proved her to be a were-wolf, and she was tried and condemned to death. It was no doubt in reality an ingenious utilisation of a prevailing superstition in order to get

¹ *Trailing the Tiger*. By M. H. Bradley. Appleton.

rid of an unwanted wife. In the Malay episode, the story may well have been concocted to conceal a murder, whether committed for revenge or other reason. The *tuindak*, like the were-wolf in Russia and other parts of Eastern Europe, is said to take on human form at death.

But presumably the *tuindak*, like the man-leopard and the were-wolf, can change his form at will, or by means of a charm, as in the case of a stranger who came knocking at the door of a house one evening. The owner went to the door and engaged the visitor in conversation, although he did not open it to admit him. The two young sons of the householder gazing through the window, were terrified to see the tigrine stripes one by one gradually emerge on the body and limbs of the visitor, who was standing in the bright moonlight. He was a *tuindak*, seeking admission to the house in order to prey upon the inmates.

Not only the live Tiger, but its body or its products are objects of superstitious beliefs. It is perhaps not remarkable that the flesh of the beast, and not only the liver, although that is most highly prized, is valued for its supposed properties in giving courage to those who partake of it. This is the case not only in India, but in Singapore, where the Chinese were ready to give a high price for the flesh of the Tiger slain by the hunter. Then the fat is highly prized both for strengthening the bodily functions and as an unguent for the cure of rheumatism. The shikaris always used to boil down the fat of every Tiger killed, and run it into bottles which no doubt fetched a high price in the Indian bazaars.

The hunter must see to it that the whiskers of his Tiger are not singed by the natives, for in some parts

of the country this may be done to prevent the animal from haunting people, or to ensure them against becoming a Tiger in the next world. It will be remembered that this transformation is also a punishment for horse-stealing, according to the Mahabharata. Or the whiskers may be plucked out for use as charms, or put to more sinister purposes when chopped up and introduced into an enemy's food or drink, no doubt as an irritant poison, like ground glass, a favourite poison in India, where it used to be said that many of the deaths ascribed to snake-bite, amounting on an average to some 20,000 a year, have in reality been murder. Sometimes the whiskers are thought to give power over the opposite sex. In view of the value attached to the whiskers as charms, it is not surprising that native taxidermists have been known to replace them by the shafts of feathers.

The claws, mounted in gold or silver, have a high value as charms against evil, and are worn by both adults and children as ornaments. The clavicles, those small rudimentary collar-bones imbedded in the flesh of the great cats, one on either side of the chest, are put to the same use ; while even the tigress's milk, expressed on to stones by those suckling cubs, but seldom found, is said to be efficacious for sore eyes, and is sought after to save the life of children suffering from shortness of breath.

The late Mr. J. D. Inverarity mentioned a curious idea, prevailing in some parts of the country, that the Tiger is allowed one rupee a day for food, so that if he kills a bullock valued at five rupees, he will not kill again for five days. That is about the average value of the victim of the cattle killer, but sometimes a valuable horse or cow is killed, perhaps worth a hundred rupees

or more. The Tiger who has done this must surely starve before his next allowance becomes due ! For his prey, even when eaten in a very high condition, will not last him for daily food more than four or five days, and during that time he will have his work cut out to protect it from hyenas, jackals, vultures, and other scavengers.

A picturesque legend is related by Bishop Heber regarding the tomb of a Muhammadan saint, "a scourge of idolaters" whose remains lie in a domed grave on the top of a hill at Siligarhi above the Ganges. The lamp of remembrance formerly kept alight in the mausoleum according to custom was no longer burning ; but both Moslems and Hîndus believed that a Tiger came every night and crouched close to the tomb, where it remained until the light of approaching dawn warned it that the stars had been scattered into flight, and that it was time to seek more secluded shades.

Bishop Heber also told a story of an old Hindu *yogi* or hermit living in the jungle near Gurmukhtesar, to whom a Tiger was said to come nightly and lick his hands and lie near him for some hours. This is not impossible, for the *yogi* may have tamed the tiger as they have been tamed elsewhere.

The Tiger has ever held a notable place in Indian history and legend. Even the English did not scruple to call Tipu Sultan "the Tiger of Mysore," a title he deserved as much for his valour as for qualities of savagery imputed to him, which it must be said were no more than the attributes of his time and circumstances. Not without reason, although perhaps not so comprehensible in our less adventurous age, did he imitate the Roman Emperor in holding that it was

better to live two years as a Tiger than two hundred years as a sheep.

In war he acted ruthlessly, like all mankind as Shakespeare wrote :

When the blast of war blows in our ears,
To imitate the action of a Tiger,
Stiffen the sinews, summon up the blood,
Disguise fair Nature with hard-featured rage.

Nor was it in vain that he chose the ruthless animal as his emblem, the symbol of terrible armature and mighty power, borne in stripes upon his standard and embossed in golden heads upon his throne. And after he had fallen in battle, bravely fighting to the last like a wounded Tiger, defending his throne and empire, the raging and starving striped monsters caged within the precincts of his palace had to be destroyed by order of Colonel Arthur Wellesley, afterwards Duke of Wellington ; and a mechanical Tiger was found in his apartments.

There was in the Sawantwari State in Western India a curious belief that the man-eating Tiger bore among the stripes on his left flank the mark of a cross, discovered by Colonel Ferris when he shot the three-quarter grown cub of a Tigress. It was said that the Tigress herself did not eat her human victims, but killed and left them to be devoured by the cub. The statement was made some time before being verified when the cub was killed. The Tigress was afterwards shot, but it is not recorded whether she also bore the mark of the beast. Perhaps someone had observed the mother passing on a corpse to her offspring, and so was able to distinguish the cruciform mark which might very well be found among stripes and loops that

vary so much in character. The idea may have had a religious origin in country bordering on Catholic Portuguese Goa, the man-eater bearing the burden of sin on his flank, just as he carries on his forehead the spirit of his last victim.

CHAPTER XVII

THE LION IN INDIA

THE relative range and distribution of the Lion and Tiger in India is a matter of so much interest, while their history and physiology touch at so many points, that no excuse need be offered for the inclusion in this volume of a chapter on the Lion in India. While in that country he occupies a subordinate place and cannot be regarded as the King of Beasts, many misconceptions have prevailed regarding him, and quite recently he has been referred to as "the maneless Lion of India." He was long considered inferior to the African animal, not merely owing to the supposed absence of the mane which imparts so majestic and noble an appearance to the species, but in size and character. There is before me a photograph of an Indian Lion, adorned with as fine a mane as any African beast, and in fact showing no difference whatever from the inhabitant of the other continent.

The fact that there are few Lions in India, as well as the progressive contraction of the regions he inhabited until they are reduced to a remote corner of Kathiawar, has no doubt contributed to relegate him to an inferior status. But the Indian and African Lions are alike in size, in general appearance, in coloration, including the possession of a red, black, or tawny mane, or sometimes of no mane at all, and in the nature of

the country they inhabit, as well as in character and habits.

The Lion and the Tiger, on the other hand, although, differing so greatly in appearance, and so considerably in some of their habits, also possess many points of resemblance to one another. Even in structure there is little difference, and only an expert can identify the skeletons of the two animals, although naturalists tell us that the skulls differ, as already described in an earlier chapter of this book.

The Tiger may certainly be considered the more beautiful of the two from his coloration of gold, and black, and white, and he is more agile and active, perhaps owing to the nature of the jungle he inhabits. In view of their near relationship, it is not surprising that the two species breed in captivity. Both alike attain an extreme length of about ten feet, and a similar height, and have skulls of similar dimensions ; but no claims of twelve- and thirteen-foot Lions have been made.

The Indian Lion, now confined to the State of Junagadh, at one time wandered over a far more extensive area, and may have inhabited portions of nearly the whole of the northern, north-western, and central regions of the peninsula. Even within the last hundred years its habitat extended from Harriana in the north to the south and east of Guzerat, while up to the end of the 'sixties of the last century Lions were shot in Central India, far to the south of its present limits, and as far east as the neighbourhood of Allahabad. In 1922 one was shot in the main street of the small village of Shergarh in Kotah State.

The Lion was hunted by Babar, the founder of the Mughal Empire in 1525. It may have wandered as

far east as Jaganath, famous for its temples and its ceremonial car, where the Sinh Darwaza, the Lion Gate, bears the colossal effigy of a well-maned Lion trampling on and subduing an elephant. It has been suggested that these animals, figured on the temples of southern India, indicate that they inhabited that part of the sub-continent. But Bishop Heber pointed out that the critics who praised these bas-reliefs have taken their idea of a Lion from the inn signs of England, and that the Lions of the temples are precisely such animals as an artist who had never seen one would gather from a description, and not from a knowledge of the real animal. But the same remark might be applied to the Tigers depicted on most of the temples of India, while the figures cut in the solid rock of Arjuna's Penance at Mahabalipuram may more probably represent the Tiger.

There are descriptions of Lion hunts in the Memoirs of Babar, the founder of the Mughal Empire, who is said to have hunted these animals on the banks of the Indus and in the neighbourhood of Benares. Other hunts are described in the *Ain Akbari*, the history of the reign of Akbar, grandson of Babar, by Abu Fazl, and in the Memoirs of Jehangir, Akbar's son and successor. Jehangir describes a hunt near Lahore, in which he took part with Akbar, and writes of twenty Lions infesting the forests. Jehangir himself killed an animal in Malwa in 1617 which attacked and mauled ten or twelve of his attendants before he shot it with three bullets.¹

But it is difficult to distinguish in Oriental records the Lion from the Tiger. Persian was the language of

¹ See an interesting article by Salim A. Ali in Vol. XXXI, Journal of the Bombay Natural History Society.

the Memoirs, as it is still the Court language of India. In Persian the Lion was *sher* and the Tiger *babr*, and Jehangir refers to an animal he killed near Giri as *sher babr*, which seems rather to specify the Tiger. But there seems no doubt about the species of another animal he killed near Rahimabad, probably in the Bari Doab, for a contemporary painting in the Indian Museum, Calcutta, depicts a Lion¹ lying or falling on its back in the throes of death, assailed by the Emperor armed with a gun, accompanied by others on four elephants and attended by men on horseback and on foot. Another Mughal painting in the Prince of Wales Museum, Bombay, represents a Lion attacked by buffaloes trained for the purpose. Then Sir Thomas Roe, English Ambassador at the Mughal Court, mentioned one which entered his camp at Mandu and attacked some sheep, remarking that none but the King might hunt Lions.

Bishop Heber wrote in 1824 from information given him by Mr. Boulderson, Collector of the Districts and a keen sportsman, that "the Lion was long supposed to be unknown in India, but is now ascertained to exist in considerable numbers in the districts of Saharanpur and Ludiana. Lions have likewise been killed on this side of the Ganges in the northern parts of Rohilcund, in the neighbourhood of Moradabad and Rampoor, as large it is said as the average of those in the neighbourhood of the Cape of Good Hope."

Captain Mundy wrote when in camp at Pewur on November 1st, 1827 :

"Three shikaris arrived from Colonel Skinner to assist us to find a Lion between that place and Hansi. Of these animals there were formerly great numbers

¹ *Indian Painting under the Moghuls.* By Percy Brown.

in the surrounding wilderness : but from the zeal of English sportsmen, and the price put upon their heads by Government, the royal race of the forest—like other Indian dynasties—is either totally extinct, or has been driven farther back into the desert. By crack sportsmen the Lion is said to afford better sport than the Tiger ; his attack is more open and certain ; a peculiarity arising either from the noble nature of the jungle king or from the country he haunts being less favourable for a retreat than the thick, swampy morasses frequented by the Tiger.”

Colonel Skinner (the famous commander of Skinner’s Horse) and Major Fraser of his regiment related many interesting anecdotes of Lion hunts, and narrow escapes of the horsemen of his corps who always accompanied the line of elephants into the jungle. One of the party had experienced a perilous adventure with a Lion, which Captain Mundy illustrated with a spirited drawing. The animal charged the elephant, and the sportsman, having wounded it, leant forward to fire another shot, when the front of the howdah gave way and he fell into the Lion’s jaws. The beast seized him immediately, when the elephant, urged on by the mahout, grasped in her trunk the top of a young tree and bent it down across the loins of the Lion, who was thus forced to quit his hold. The sportsman had an arm broken in two places and was severely clawed. The others came up and killed the Lion.

The country referred to by Mundy, where there were formerly great numbers of Lions, was known as Harriana, where George Thomas had his kingdom, minted his own coin and cast his own guns in his capital of Hansi. This famous potentate, who started life as a sailor before the mast, was held in great respect



AN INDIAN LION

From: the Journal of the Bernhay Natural History Society.

by his subjects, both from his strong character and his feats of arms, for he was able to slice off the head of a bullock with a sweep of his sword. He was eventually defeated and deposed by the French adventurer Perron, who was himself ejected from Hindustan by General Lake in 1803.

The *Bengal Sporting Magazine* for 1833 contains a good account of a Lion hunt in Harriana. "He had just dined off a fine buffalo, and we put him up out of a small bush of jungle close to the scene of his repast, when he sneaked off behind us without a shot, as we were afraid of hurting the sowars (horsemen). We were soon informed that he was in the plain waiting for us ; and immediately on our coming out from the jungle, and when we were one hundred yards from him, down he came, lashing his sides with his tail, his mane erect, and roaring dreadfully. Every one of the elephants took to their heels, whereupon the Lion returned to his position on a high knoll, from which he overlooked us, but which also rendered him conspicuous and was the cause of his death at last. The elephants were often brought back to the charge and as often driven away in a similar manner ; and we were obliged to have recourse to the unsportsman-like plan of picking him off from a distance, which we were able to do from the open and raised position he had taken up."

This hunt must have taken place before 1830, for in the same magazine in 1831 Major Brown had written that the Lion was "once very numerous in Harriana, but there is not one to be found now ; the whole of the most favoured tract for them was travelled last year by a gentleman who did not hear of one." The naturalist Blyth, writing in the *India Sporting Review* in 1856,

says that a Lion was killed in the Shekawat in 1834. A year later he remarks that "it is curious that not even a tradition remains of the former existence of that grand and most prominently conspicuous animal in the Harriana territory. The lapse of centuries will sufficiently account for all remembrance of the rhinoceros having long ceased upon the banks of the Indus, where the Moghul Emperor Babar hunted it, and has left so clear a description of the huge beast in his Memoirs that there can be no doubt whatever on the subject. . . . It is indeed strange that the king of beasts should in so very few years have been utterly lost to the recollection of the native inhabitants of Harriana."

But in the Sagar and Narbada territory Lions lingered for another twenty-five years. In 1847 a Lioness was killed at Rhylee in the Damoh district by a native hunter who brought the skin in to Damoh to claim the usual reward for killing a Tiger. It was described as about the size of a medium Tiger skin; colour just the shade of a light camel on the back, a trifle paler towards the belly, and when you place it in the sun and look sideways at it, some very faint spots about the size of a shilling are to be seen along the belly." In fact it appears to have differed in no respect from an African Lioness.

It is curious that an idea should have so long prevailed that the Indian Lion is maneless; even now this error crops up at times; and Lydekker in his *Game Animals of India* and Colonel Heber Percy in the *Badminton Library* both state that the black-maned Lion is unknown in India. The assumption that Indian Lions are maneless has been refuted for more than sixty years, while their occurrence is noted as far

back as in the *Bengal Sporting Magazine* a hundred years ago. In volume II, a Guzerat Lion with "a very fine mane" is mentioned, and another "with a glorious red mane tipped with black"; and in Volume XI, in Harriana "a black-maned Lion" and "two Lions, both remarkably fine brutes, with splendid manes, and exactly resembling the African ones." I sketched a fine Indian Lion, well-maned, in the Baroda Gardens twenty years ago, and Colonel L. L. Fenton mentions a document stating that "Colonel Le Grand Jacob, while on his way to the Gir to shoot a black-maned Lion, had been obliged to give up the expedition and return to Rajkot to transact important business," while the late Colonels Watson and Scott, the former a very observant officer and great sportsman, mentioned the rare occurrence of Lions with black manes in the Gir.

Dr. H. H. Spry, in his *Modern India* in 1837, wrote that in 1834 a very large Lioness was shot in the great forest of Thiendu Kheiri, in the Reylce Division; a Lion was shot at Palamow, and the skin of a full-grown Lion was brought to him at Saugor in Central India, shot by the people in the neighbouring forest. An account of the shooting of a Lion was contributed to the *Oriental Sporting Magazine* by Mr. W. Kelsey who, with two other engineers employed on the construction of the Jabalpur railway line, was in camp in 1866.

They had news of a Tiger a short distance to the west of the 80th Mile from Allahabad, at the village of Putna in the Raj of Puttercachar, and went out with a party of beaters; but as it was a Sunday, "one of the party, on strictly sabbatarian principles, although not a Scotchman, remained in camp." They beat several

places, and the sun had already set when they were astonished to see a fine Lion striding towards them "with a most majestic air." He was, however, soon killed with a few shots, and we are told that "though dying he was noble . . . and his temper seemed unruffled even to the last." The astonishment of the natives was even greater than that of the sportsmen, for they had never before seen such an animal. The Lion measured 8 feet 7 inches in length, 3 feet 3 inches high at the shoulder, and 3 feet 10 inches round the chest. "He had a fair mane, the hair of which measured 11 inches, and a large tuft of hair behind each foreleg at the elbow. His skin was as sleek as that of a healthy greyhound, and his tail had a fine tuft of black hair at the tip."

In Guzerat and Central India, however, Lions were killed as recently as the early 'seventies of the last century, while the *Oriental Sporting Magazine* between 1828 and 1833 contains many records of Lion-hunts. Some of these can scarcely be termed sport. One was caught in a pit 25 feet deep, and there shot after making a surprising leap up of 23 feet in attempting to escape. In another instance the sportsmen wounded and followed up a Lion at a distance of 100 to 200 yards, firing as opportunity offered, until the beast stopped at a small tank surrounded with trees. Here the Lion charged, got one of the men down, and after a missfire, the sportsman seized a bayonet which had fallen in the scuffle, and finished off the beast with repeated stabs. His escape and that of the men with him was providential, he says, as "those behind kept up a pretty smart fire" upon them.

"Ignotus," writing in the same magazine in 1830 from Kashi in Guzerat, remarks that "Lions are not

very scarce now, although before this year they have never been known of." He was one of a party of four who put up two Lions with a Lioness and cub in long grass. They fired the jungle, and the Lions when followed "were seen quietly sitting on their hams and watching our motions." A Lion and a Lioness were shot, being finished off by the sportsmen on horseback. The next contribution to the subject was on "Lion-hunting in Khandesh," near Pattan in Saraswati where a Lion was shot from the safe precincts of a howdah on elephant-back. It showed no sport, bolting under the feet of the elephant and being killed with several volleys. It measured 9 feet 6 inches; there were apparently 12-foot Tigers, but no such mythical Lions in those days, either in Asia or Africa.

The same party continued the unsporting practice of burning Lions out of the jungle. Several were killed, one "charging salamander-like through a narrow clump of blazing rushes, after he had been burnt out, inch by inch, across several acres of blazing cover." Most of them did not show much fight, but one Lioness sprang on to the elephant's hindquarters. A Lion and Lioness were killed in Baroda territory in 1832, at Wansa, the Lion measuring 11 feet 3 inches, and having a shaggy reddish-brown mane. It was in those days the custom in India to record the measurements of an animal, whether Lion or Tiger, from its stripped skin which, well stretched, added 2 feet and more to the length.

In the *Bengal Sporting Magazine* for 1841 there is an account of eight Lions being shot in one day on foot; and the two Messrs. Frere (one afterwards Sir Bartle Frere) of the Bombay Civil Service killed a similar number in one day. In 1853 two cubs from Guzerat

were presented to the Zoological Society by Sir Erskine Perry. There were Lions in Gwalior territory in Central India long after this date. The late Colonel Cunliffe Martin, of the Central India Horse, and formerly of the 14th Light Dragoons, with which he served through Sir Hugh Rose's campaign in 1858, and the late General Sir Montagu Gerard, both told me that they had shot a number of Lions in the neighbourhood of Goona. Gerard shot one on Waterloo Day 1872, and the last one shot appears to have been killed by Colonel Hill in the following year ; but Hughes-Buller of the Central India Horse saw one in Gwalior State in 1884.

The last remaining stronghold of the Lion in India in the Gir Forest of Junagadh State in Kathiawar was well described in the Journal of the Bombay Natural History Society in 1909, by Colonel L. L. Fenton, who gave a full account of their habits and of his experiences in hunting them. The Gir occupies an area of about 1500 square miles, the greater part covered with a jungle of stunted trees, and here and there patches of corinda and other thorny bushes and an isolated banyan tree towering above its neighbours. The country is undulating, with a few rugged hills in parts, and much cut up by nalas with rocky beds, sometimes lined with a thick growth of jambool trees. The Than river is the largest stream ; in ordinary years it and some of the larger nalas hold water all the year round in the deeper pools. In the rainy season there is a dense and impenetrable undergrowth. The few villages are collections of dilapidated huts surrounded by patches of cultivation. On the east the Gir is bounded by Baroda territory into which lions sometimes stray. I saw at Baroda in 1910 the skin of a Lion that

had been shot by one of the Maharaja Gaikwar's officers.

As for size, Colonel Fenton shot and carefully measured several Lions. The largest measured 9 feet 5 inches, the tail being 2 feet 11 inches ; two younger ones were 9 feet 1 inch and 9 feet, and one shot by Lord Harris measured 9 feet 7 inches. These measurements and the dimensions of skulls show that the Indian Lion is much the same size as the average Tigers shot in the Deccan, and the same size as the African animal.

Its habits differ in no respect from those of the African Lion ; it is more noisy than the Tiger, a silent beast ; Colonel Fenton remarks that Lions " generally begin roaring early in the night and keep it up until dawn for no apparent reason." Selous said that Lions hunt in silence and that " when they roar loudly it is a pretty good sign that they have dined." They are often found resting in the shade of a large banyan tree, or in a waterhole. Out of such a hole Colonel Fenton saw two Lions, a hyena, and two porcupines emerge at short intervals. Like Tigers, they cover a great deal of ground in their nightly wanderings. They kill many cattle, partly owing to their natural prey, nilgai, pig, and deer, being depleted by the natives.

The villagers here as elsewhere sometimes display remarkable courage in contending with wild beasts. In one instance a Lion killed a cow in a village. It was followed up by a Mckrani sepoy, who was charged at once and badly mauled, but he retaliated with a short dagger, so severely wounding the Lion that it did not far off. The man recovered. In the same district a cattle-herd approached a Lion, shouting at the top of his voice and brandishing the heavy stick which was

his only weapon, expecting the animal to bolt. But it turned on him, and inflicted fatal wounds.

It is not clear why the Lion, so far as is known, has never penetrated to southern India and to parts of eastern Asia where the tiger is abundant. No doubt the Lion hunters are partly responsible for its disappearance from those regions in India which it formerly inhabited, and for its extermination in some localities ; one party is recorded as having shot eleven Lions in a few days, and it would long since have disappeared from the Gir had it not been protected. Another cause may be found in its having been driven out by the Tiger, not *vi et armis*, by teeth and claws, but by the Tiger's higher survival power ; Lions introduced from Africa into Gwalior are said to have been forced into the vicinity of villages by Tigers, and there destroyed by the inhabitants.¹

At any rate the Lion and the Tiger, either in Persia and in western Asia or in India, do not appear to inhabit the same regions, except sporadically in the case of the Lion in Central India. In the sole remaining stronghold of the Lion in the Gir Forest there are and have been no Tigers within the memory of man ; but leopards are plentiful.

Probably the Lion, like the Tiger, is an immigrant into India, and perhaps a more recent one. The noble beast may have extended its range from Africa, not only into Macedonia, but into western Asia. It may have migrated eastwards to Nineveh and Babylon in that historic land where it is figured hunting and being hunted in ancient sculptures. Layard saw many Lions and found fresh traces of their footsteps almost daily

¹ Article in *The Times* by Mr. Edward Thompson who tells us there are now 200 lions in Junagadh.

among the ruins of Niffer. Lions are partial to the debris of vanished Empires "whose Portals are alternate Night and Day." And as the Lion roamed the ruins of Babylon, so the Tiger haunts in India the courts of abandoned forts and of those cities of the dead which echo to no human tread, where the Tigress whelps in deserted streets and the jungle has been let in to complete the devastation caused by the hand of man and the passage of Time. Perhaps some day Imperial Delhi, dead and turned to dust like the seven cities whose ruins are strewn around, may harbour the beasts of the field and "a leopard shall watch over their cities."

The Lion existed quite recently in Persia, where Omar Khayyam wrote eight hundred years ago :

They say the Lion and the Lizard keep
The Courts where Jamshyd gloried and drank deep.

There not only Bairam, that great Hunter, but Nausherwan, whose name means Slayer of nine Lions, and the Bakhtiari Chiefs in their rugged mountains pursued and slew the Lion ; and on their tombs these valiant men had "carved in coarsest stone," not a turban like the Turk, but the likeness of the King of Beasts.

How did the Lion pass into India ? We do not hear of him in Afghanistan. We may like to think of him invading Sindh by way of Gedrosia on the track of the retreat of Alexander the Great, through those now desiccated deserts of Mekran "where bird never flaps its wing"—"*jahan parinda par na marta.*"

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